January 28, 1983

US NRC Washington (2 cpts)

POINT BEACH NUCLEAR PLANT
EMERGENCY PLAN IMPLEMENTING PROCEDURES

The following new and revised procedures are attached and should be inserted into your manual. Please destroy all revisions removed from your manual.

1. EPIP 1.1, "Initial Classification," Revision 4, dated 01-28-83.
2. EPIP 1.3, "Estimation of Source Term," Revision 4, dated 01-28-83.
3. EPIP 6.1, "Limited Plant Evacuation," Revision 2, dated 01-28-83.
4. EPIP 6.2, "Plant Evacuation," Revision 2, dated 01-28-83.
5. EPIP 6.3, "Exclusion Area Evacuation," Revision 1, dated 01-28-83.
6. EPIP 7.3.2, "Post-Accident Sampling and Analysis of Potentially High Level Reactor Coolant," Revision 5, dated 01-28-83.
7. EPIP 8.1, "Personnel Assembly & Accountability," Revision 3, dated 01-28-83.
8. EPIP 11.3, "Hospital Assistance," Revision 3, dated 01-28-83.

The following new and revised forms are attached for insertion into your manual. Please attach the form to the indicated procedure and destroy all revisions removed from your manual.

1. EPIP-01 (01-83), "Emergency Plan Airborne Radiation Survey Record Site Boundary Control Center," (attach to EPIP 7.3.1).
2. EPIP-02 (01-83), "Emergency Plan Survey Record Site Boundary Control Center," (attach to EPIP 7.3.1).
3. EPIP-04 (01-83), "Status Report on Plant Systems & Controls for Affected Unit," (attach to EPIP 1.2).
4. EPIP-22 (01-83), "Plant & Company Emergency Call List," (place after the call list tab).
5. EPIP-23 (01-83), "Offsite Agency Emergency Call List," (place after the call list tab).
6. EPIP-24a (01-83), "Site Boundary Control Center Emergency Plan Inventory Checklist," (attach to EPIP 7.4.1).
7. EPIP-25b (01-83), "Monthly Health Physics Instrument & Air Sampler Functional Test Checklist," (attach to EPIP 7.4.2).

8. EPIP-25c (01-83), "Quarterly Emergency Plan Checklist," (attach to EPIP 7.4.2).

9. EPIP-27 (01-83), "Monthly Communications Test," (attach to EPIP 14.1).

10. EPIP-34 (01-83), "Calculation of Xe-133 Equivalent Release Rates," (attach to EPIP 1.8).

Also attached is a revised listing of the Table of Contents to be inserted into your manual. Please destroy the old revision.

Also attached is a revised Table of EPIP Forms. Please insert this table into your manual. Please destroy the old revision.

Please fill out the attached receipt form and return it to Ms. F. A. Flentje at the Point Beach Nuclear Plant.

J. E. Knorr

J E Knorr

USNRC Wash. (2 sets)

POINT BEACH NUCLEAR PLANT
EMERGENCY PLAN IMPLEMENTING PROCEDURES
01-28-83

I hereby acknowledge receipt of EPIP 1.1, EPIP 1.3, EPIP 6.1, EPIP 6.2, EPIP 6.3, EPIP 7.3.2, EPIP 8.1 and EPIP 11.3 and have inserted them into my manual.

_____

Date _____

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INITIAL CLASSIFICATION

1.0 GENERAL

The purpose of this procedure is to provide a means of classifying an event or condition at the Point Beach Nuclear Plant into one of four emergency classifications as described in the Point Beach Nuclear Plant Emergency Plan. Each emergency classification requires emergency organization notifications, mobilizations, and actions to be performed in order to appropriately react to the situation and provide for the health and safety of plant and public personnel. They are listed in order of increasing severity.

1.1 Unusual Event

An unusual plant condition which either has occurred or might occur. This condition could possibly lead to a degradation in overall safety. This condition does not represent a significant radioactivity release, involves no offsite response, and may require no augmentation of plant personnel. In spite of the above, prompt notification of the counties and state is required.

1.2 Alert

Plant conditions in which events are in progress or have occurred which involve an actual or potential degradation of plant safety. Radiation releases are not likely to cause an offsite hazard. Prompt offsite notification is necessary and the plant organization may have to be augmented.

1.3 Site Emergency

Plant conditions in which events are in progress or have occurred which involve actual or probable major failures of plant functions. Potential radioactive releases may have an impact on offsite people. Prompt notification of offsite agencies is required. The plant organization must be augmented and the technical support center, onsite operations support center, and emergency support center will be operational. An evacuation may be necessary.

1.4 General Emergency

Plant conditions in which events are in progress or have occurred which involve actual or imminent substantial core degradation and a potential for loss of containment integrity. Potential radioactive releases may have an impact on offsite people. Prompt notification

of offsite agencies is required. The plant organization must be augmented and the technical support center, onsite operations support center, and emergency support center will be operational. An evacuation may be necessary. The emergency news center will be opened.

The Shift Supervisor has the responsibility and authority to take immediate action to mitigate the consequences of the emergency. He will consult with the Duty & Call Superintendent and assign the appropriate emergency classification and initiate the necessary Emergency Plan implementing procedures.

2.0 REFERENCES

2.1 Nuclear Regulatory Commission NUREG-0654, Revision 1, published November, 1980.

2.2 Point Beach Nuclear Plant Emergency Plan Sections 4.1 and 5.1.

3.0 PRECAUTIONS AND LIMITATIONS

3.1 All actions and notifications should be appropriately logged.

3.2 Emergency Plan implementing procedures are not to be used to respond to security threats. One hour notification of the NRC is required using the red phone for security threats.

3.3 Certain events require notification to the NRC within one hour. These items are included on Table 1-1. Those items which are noted as "NRC Only" means that there is no classification for the events and no notification other than the NRC is required. These notifications are not considered as starting the Emergency Plan.

3.4 The "Indications Used" in Table 1-1 are those which one may expect if that level of emergency occurs very quickly. For more slowly developing situations, other indications may be judged appropriate. For example, a primary system leak rate of 40 gpm is an Unusual Event. Subsequently, charging may be lost and, in addition, the leak may worsen. One may not see charging flow 50 gpm greater than letdown flow when in fact an Alert should be declared.

3.5 For classification purposes where radiological dose is the primary parameter leading to a classification, use EPIP 1.8, "Emergency Off-Site Dose Estimation" for determination of dose.

4.0 INITIAL CONDITIONS

None.

NOTE: APPENDIX 1 OF NUREG-0654 (PAGE 1-3) CONTAINS THIS SENTENCE: "THE TIME IS MEASURED FROM THE TIME AT WHICH OPERATORS RECOGNIZE (EMPHASIS ADDED) THAT EVENTS HAVE OCCURRED WHICH MAKE DECLARATION OF THE EMERGENCY CLASS APPROPRIATE.

5.0 PROCEDURE

5.1 Call the Duty & Call Superintendent for consultation to establish the initial classification. If he is unavailable, the Shift Supervisor is responsible for classification.

5.2 Select affected categories related to plant events or conditions at this time. Check (√) all applicable categories.

Category				Refer to Page in Table 1-1
1. _____	_____	_____	Safety System Functions	1
2. _____	_____	_____	Abnormal Primary Leak Rate	1
3. _____	_____	_____	Abnormal Coolant Temperature/ Pressure	2
4. _____	_____	_____	Abnormal Primary/Secondary Leak	2
5. _____	_____	_____	Core Fuel Damage	3
6. _____	_____	_____	Secondary Coolant Anomaly	4
7. _____	_____	_____	Abnormal Effluent	5
8. _____	_____	_____	Major Electrical Failures	5
9. _____	_____	_____	Control Room Evacuation	6
10. _____	_____	_____	Fire	6
11. _____	_____	_____	Plant Shutdown Function	7
12. _____	_____	_____	Abnormal Radiation Levels at Site Boundary	8
13. _____	_____	_____	Fuel Handling Accident	8
14. _____	_____	_____	Serious or Fatal Injury	9
15. _____	_____	_____	Security Threat	9
16. _____	_____	_____	Hazards to Plant Operations	9
17. _____	_____	_____	Natural Events	10
18. _____	_____	_____	Reactivity Transient	10

Category				Refer to Page in Table 1-1
19.	_____	_____	_____ Load Transient	11
20.	_____	_____	_____ Other	11

5.3 Beginning at the indicated page in Table 1-1 (attached), review initiating conditions for all categories checked above.

5.4 Record most severe emergency classification at this time.

_____ _____ _____

5.5 Record date/time of initial classification (subsequent columns for reclassification at a later date and time are provided if reclassification is required).

Initial Date/Time	Subsequent Date/Time	Subsequent Date/Time
_____	_____	_____

NOTE: IF THE SHIFT SUPERVISOR CANNOT COMMUNICATE WITH A DUTY & CALL SUPERINTENDENT, THE SHIFT SUPERVISOR MUST NOTIFY THE STATE AND TWO COUNTIES WITHIN 15 MINUTES OF THE DECLARATION OF ANY CLASS OF EMERGENCY.

5.6 If events or conditions are classified as an Unusual Event, perform EPIP 2.1, "Unusual Event - Immediate Actions."

5.7 If events or conditions are classified as an Alert, perform EPIP 3.1, "Alert - Immediate Actions."

5.8 If events or conditions are classified as a Site Emergency, perform EPIP 4.1, "Site Emergency - Immediate Actions."

5.9 If events or conditions are classified as a General Emergency, perform EPIP 5.1, "General Emergency - Immediate Actions."

NOTE:

"One hour" refers to the requirement to notify NRC within one hour (10 CFR 50.72).

"One hour - Open line" refers to the requirement to notify NRC within one hour and maintain an open line for continuous communication (10 CFR 50.72).

Notes: DCS - Duty & Call Superintendent
DSS - Duty Shift Supervisor
FSAR - Final Safety Analysis Report
MASP - Modified Amended PBNP Security Plan

TABLE 1-1

EMERGENCY CLASSIFICATION

Category	Initiating Condition	Indication Used	Emergency Classification
1. Safety System Functions	Unplanned initiation of emergency core cooling with injection to the primary system	Any of the following first-out reactor trip panel annunciation with indicator confirmation noted: 1. "Containment press hi", [PI-945, PI-947, PI-949 (2/3 >5 psig)] 2. "Steam line loop A lo-lo press" [PI-468, PI-469, PI-482 (2/3 <530 psig)] 3. "Steam line loop B lo-lo press" [PI-478, PI-479, PI-483 (2/3 <530 psig)] 4. "Pressurizer lo press SI" [PI-429, PI-430, PI-431 (2/3 <1735 psig)] 5. Wide range pressure <1500 psig	Unusual Event 1-Hour (7)
	Loss of containment integrity requiring shutdown by Technical Specifications	When shutdown commences as determined by DSS and DCS	Unusual Event 1-Hour (5)
	Loss of engineered safety feature requiring shutdown by Technical Specifications	When shutdown commences as determined by DSS and DCS	Unusual Event 1-Hour (5)
	Loss of fire protection system function requiring shutdown by Technical Specifications (i.e., both fire pumps inoperable) and no backup fire suppression system	When shutdown commences as determined by DSS and DCS	Unusual Event 1-Hour (5)
2. Abnormal Primary Leak Rate	Exceeding Technical Specification primary system leak rate (10 gpm)	When shutdown commences as determined by DSS and DCS	Unusual Event 1-Hour (5)

(5) (7) See DCS 1.12.1 for 10 CFR 50.72 Notifications.

Category	Initiating Condition	Indication Used	Emergency Classification
	Leak rate >50 gpm	All of the following: 1. "Volume control tank level hi-lo" [LI-141 and/or LI-112 <8%] 2. Decreasing pressurizer level [LI-426, LI-427, LI-428] 3. "Charging pump speed hi" 4. Charging line flow (FI-128) >50 gpm more than letdown flow (FI-134)	Alert
	Leak rate in excess of available pump capacity including charging, high head SI and low head SI	All of the following: 1. "Volume control tank level hi-lo [LI-141 and/or LI-112 <8%] 2. No pressurizer level indicated [LI-426, LI-427, LI-428] 3. All available pumps running as indicated by the red light at the switch 4. Increasing core exit T/C temp as indicated by P-250 and confirmed on local readout.	Site Emergency
3. Abnormal Coolant Temperature/Pressure	Unexpected decrease in subcooling margin	Both of the following: 1. Alarm on P-250, if operable 2. Confirmation by manual calculation	Unusual Event
	Pressure >2735 psig DNBR <1.30	Both of the following: 1. Pressure >2735 psig on PR-420, and 2. Code safety, or PORV not closed indication	NRC only 1-hour open line (2)
4. Abnormal Primary/ Secondary Leak	Exceeding Technical Specification primary-secondary leak rate	When shutdown commences as determined by DSS and DCS	Unusual Event 1-Hour (5)

(2) (5) See DCS 1.12.1 for 10 CFR 50.72 Notification.

Category	Initiating Condition	Indication Used	Emergency Classification
	Gross failure of 1 SG tube (>400 gpm) & loss of offsite power (FSAR 14.2.4)	All of the following first-out reactor panel annunciation with confirmation indication: 1. "Pressurizer Lo Press SI," [PI-429, PI-430, PI-431 (2/3 <1735 psig)] 2. a. "Steam generator A level hi" [LI-461, LI-462, LI-463 (2/3 >70%)] or b. "Steam generator B level hi" [LI-471, LI-472, LI-473 (2/3 >70%)] 3. a. "4.16 kv bus undervoltage" & 0 volts on A03 & A04 voltmeters. b. X04 to A03 ammeter on CO2 (0 amps) c. X04 to A04 ammeter on CO2 (0 amps) 4. SI flow >400 gpm indicated by FI-924 & FI-925 and pump discharge pressure corresponding to flow.	Alert
	Rapid failure of >10 SG tubes (4000 gpm) with or without offsite AC	All of the following first-out reactor panel annunciation with confirming indication: 1. "Pressurizer lo press SI" [PI-429, PI-430, PI-431 (2/3 <1735 psig)] 2. a. "Steam generator A level hi" [LI-461, LI-462, LI-463 (2/3 >70%)] or b. "Steam generator B level hi" [LI-471, LI-472, LI-473 (2/3 >70%)] 3. SI flow >4,000 gpm indicated by FI-626, FI-928, FI-924 & FI-925	Site Emergency
5. Core Fuel Damage	Gross fuel damage in core indicated	Both of the following: 1. Letdown line radiation monitor (K9) (sample line R109) 100 x alarm setpoint. 2. Sustained offscale & chemical analysis shows fission product concentration increase by 100X.	Unusual Event

Category	Initiating Condition	Indication Used	Emergency Classification
	Massive fuel damage	300 µCi/cc iodine-equivalent as determined by by chemical analysis	Alert
	1. Massive loss of fuel clad integrity 2. With simultaneous loss of primary system integrity 3. With potential loss of containment integrity	Initiating Conditions Nos. 1, 2, 4 & 5 exist and No. 3 is possible: 1. 300 µCi/cc iodine-equivalent determined by chemical analysis 2. Primary system leak >1000 gpm indicated by SI flow >1000 gpm (FI-924 & FI-925) and pump discharge pressure corresponding to flow 3. Minimum containment pressure suppression equipment is not available (any of the following): a. No fan cooler operating and <2 spray pumps. b. No spray pump operating and <4 fan coolers c. <2 fan coolers running with 1 spray pump 4. "Containment press hi" [PI-945, PI-947, PI-949 (2/3 >5 psig)] 5. "Containment spray" with 2/3 + 2/3 >25 psig [PI-945, PI-947, PI-949] [PI-946, PI-948, PI-950]	General Emergency 1-Hour open line (3)
6. Secondary Coolant Anomaly	Reduction in feedwater enthalpy incident (FSAR 14.1.7)	1. a. Decreasing feedwater temp indicated by TO-418A & TO-438A on P-250 and b. confirmed by local temperature indicator on outlet of No. 5 feedwater heater. 2. Unexpected increasing power on excore nuclear instrumentation	Unusual Event
	Steam line break with primary to secondary leak rate in excess of 10 gpm (FSAR 14.2.5)	All of the following first-out reactor trip panel annunciation with confirmation: 1. Either: a. "Steam line loop A Lo-Lo press" [PI-468, PI-469, PI-482 (2/3 <530 psig)] or b. "Steam line loop B Lo-Lo press" [PI-478, PI-479, PI-483 (2/3 <530 psig)]	Alert 1-Hour open line (3)

(3) See DCS 1.12.1 for 10 CFR 60.72 Notification.

Category	Initiating Condition	Indication Used	Emergency Classification
		2. Confirmed primary-to-secondary leak rate of at least 10 gpm. 3. Either: a. "Steam line loop A isol channel alert" [FI-464, FI-465 (1/2 >3.9x10^6 lb/hr)] or b. "Steam line loop B isol channel alert" [FI-474, FI-475 (1/2 >3.9x10^6 lb/hr)]	
Secondary Coolant Anomaly	Transient initiated by loss of feedwater, followed by loss of auxiliary feedwater for >1 hour (FSAR 14.1.11)	All of the following: 1. Decreasing SG levels - "A" SG [LI-461, LI-462, LI-463] "B" SG [LI-471, LI-472, LI-473] 2. No auxiliary feedwater flow - [FI-4002, FI-4007, FI-4014] [FI-4036, FI-4037]	General Emergency 1-Hour open line (3)
7. Abnormal Effluent	Radiological effluent Technical Specification limits exceeded but <10 times the limit (FSAR 14.2.3)	Airborne effluents only	Unusual Event 1-Hour (8)
	Radiological effluent Technical Specification limits exceeded (FSAR 14.2.2)	Liquid effluents only	Unusual Event 1-Hour (8)
	Radiological effluents >10 times Technical Specification instantaneous limits. (An instantaneous rate which, if continued for >2 hours, would result in a dose of about 1 mR at the site boundary under average meteorological conditions.)	Airborne effluents only	Alert 1-Hour (8)
8. Major Electrical Failures	Sustained loss of offsite power >15 minutes (FSAR 14.1.2)	All of the following: 1. "4.16 kv bus undervoltage" & 0 volts on A03 & A04 voltmeters. 2. X04 to A03 ammeter on C02 (0 amps). 3. X04 to A04 ammeter on C02 (0 amps)	Unusual Event

(3) (8) See DCS 1.12.1 for 10 CFR 50.72 Notification.

Category	Initiating Condition	Indication Used	Emergency Classification
	Sustained loss of onsite AC power capability (>15 minutes)	Both of the following: 1. "4.16 kv bus undervoltage" & 0 volts on A05 and A06 voltmeters 2. "Emergency Diesel Starting System Disabled" for both Diesels	Unusual Event 1-Hour (5)
	Loss of all vital onsite DC power >15 minutes	Both of the following: 1. "Annunciator power failure" on C01, C02, C03, and C04 2. <100 volts on the voltmeters for all batteries	Site Emergency
	Loss of offsite power and loss of all onsite AC power for >15 minutes	All of the following: 1. "4.16 kv bus undervoltage" 0 volts on A03, A04, A05, A06 & "Emerg Diesel starting system disabled" for both Diesels 2. X04 to A03 ammeter on C02 (0 amps) 3. X04 to A04 ammeter on C02 (0 amps)	Site Emergency
	Loss of offsite and all onsite AC power with loss of all auxiliary feedwater for >2 hours	All of the following: 1. Unit aux MW meter X02 on C02 (0 MW) 2. Station aux MW meter X04 on C02 (0 MW) 3. X04 to A03 ammeter on C02 (0 amps) 4. X04 to A04 ammeter on C02 (0 amps) 6. X02 to A01 ammeter on C02 (0 amps) 7. a. No auxiliary feedwater flow [FI-4036, FI-4037] b. Decreasing SG level - "A" SG [LI-461, LI-462, LI-463] "B" SG [LI-471, LI-472, LI-473]	General Emergency
9. Control Room Evacuation	Evacuation of control room >15 minutes & no control at remote shutdown station	As required by DSS	Site Emergency 1-Hour open line (3)
10. Fire	Fire in vital area or on the controlled side of plant lasting >10 minutes after initial use of fire extinguishing equipment.	As reported by Fire Brigade Chief	Unusual Event

(3) (5) See DCS 1.12.1 for 10 CFR 50.72 Notification

Category	Initiating Condition	Indication Used	Emergency Classification
	Fire affecting 1 train of safety systems.	As reported by Fire Brigade Chief	Alert
	Fire affecting 2 trains of safety systems	As reported by Fire Brigade Chief	Site Emergency
II. Plant Shutdown Function	Nonfunctional indications or alarms in the control room on primary system parameters requiring plant	Both of the following: 1. "Annunciator power failure" on C04. 2. Failed indication as determined by DSS.	Unusual Event 1-Hour (5)
	Turbine mechanical failure with consequences	All of the following: 1. Annunciator "Turbine supervisory." 2. Indication on TR-6019 of bearing vibration >7 mils. 3. Bearing vibration alarm on back of C03. 4. Visual confirmation of turbine housing penetration by a blade or disc.	Unusual Event
	Significant loss of effluent monitoring capability & meteorological instruments which impairs ability to perform emergency assessment. Loss of effluent monitoring may/may not require plant shutdown.	1. Loss of LW16 (RE223) during a release or 2. Loss of R18 (RE218) during a release or 3. a. Loss of wind speed indication or wind direction indication and b. Loss of R14 (RE214) and RMS II Channel 1 (RE315, RE317, RE319) or c. Loss of R15 (RE215) and CR9 and RMS II Channel 5 (RE225, RE226) or d. Loss of R21 (RE221) and RMS II Channel 2 (RE325, RE327) or e. Loss of GW112 (RE224) and RMS II Channel 6	Unusual Event
	Failure of reactor protection system to complete a trip which brings reactor subcritical	All of the following: 1. Unplanned first out annunciator on C04 with confirmation from associated indicator 2. Intermediate range detector output not decaying 3. >1 RCC RPI indicates fully withdrawn	Alert 1-Hour open line (3)

(3) (5) See PCS 1.12.1 for 10 CFR 50.72 Notification

Category	Initiating Condition	Indication Used	Emergency Classification
	All alarms (annunciators) lost >15 minutes while unit is not in cold shutdown	1. "Annunciator power failure" on C01, C02 & 1(2)C03, 1(2)C04	Alert
	Loss of functions needed for cold shutdown for >4 hours while at cold shutdown	Any of the following: 1. Loss of service water Unit 1 = south & west header Unit 2 = north & west header 2. Loss of both trains of RHR 3. Loss of component cooling	Alert
12. Abnormal Radiation Levels at Site	a. Effluent monitors detect levels corresponding to any of the following: (1) >50 mR/hr for ½ hour (2) >250 mR/hr for ½ hour for the thyroid (3) >500 mR/hr whole body for 2 minutes (4) >2500 mR/hr to the thyroid for 2 minutes at the site boundary for adverse meteorology	Airborne effluents only	Site Emergency
	b. Any of the above doses measured in the environs	As reported to DSS by HP Supervisor	
	c. Any of the dose rates projected, based on plant parameters		
	a. Effluent monitors detect levels corresponding to either: (1) 1 R/hr whole body (2) 5 R/hr thyroid at the site boundary under actual meteorological conditions	Airborne effluents only	General Emergency
	b. Either of the above doses measured in environs	As reported to DSS by HP Supervisor	
	c. Either of above dose rates projected based on other plant parameters		
13. Fuel Handling Accident	Major damage to irradiated fuel in containment	Both of the following: 1. As reported to DSS by Core Loading Supvr. 2. Alarm on Victoreen on manipulator & alarm on R211	Alert

Category	Initiating Condition	Indication Used	Emergency Classification
	Fuel damage accident with release of radioactivity to auxiliary building (FSAR 14.2.1)	Both of the following: 1. As reported to DSS by Supvr in charge of fuel handling & drumming area vent (R221) 2. Alarm on Victoreen on spent fuel pit bridge.	Alert
14. Serious or Fatal Injury	Transportation of seriously or fatally injured individual from site to hospital (Reference EPIP 11.1)	Reported as judged by DSS (expect hospitalization for at least 48 hours)	Unusual Event
15. Security Threat	Security threat or attempted sabotage or Ongoing security compromise	Per MASP	Per MASP & Appendices 1-Hour Red Phone Only (Open Line) (4)
16. Hazards to Plant Operation	Unusual aircraft activity over facility	Visual observation of Operations Supervisor or security force	Unusual Event
	Near or onsite explosion or flammable or toxic gas release	As reported to DSS by plant personnel making visual observation	Unusual Event
	Missile impacts from any source on facility	Visual observation by Operations Supervisor	Alert
	Missile impact causing damage to two trains of safety systems	Visual observation by Operations Supervisor	Site Emergency
	Aircraft crash in protected area (within the fence)	Visual observation by Operations Supervisor	Alert
	Known explosion damage to facility affecting plant operation. Toxic or flammable gases in facility environment excluding normal process gases	Visual observation by Operations Supervisor	Alert
	Toxic or flammable gases entering into vital areas (control room, auxiliary building, etc.) excluding normal process gases	Visual observation by Operations Supervisor	Site Emergency

(4) See DCS 1.12.1 for 10 CFR 50.72 Notification.

Category	Initiating Condition	Indication Used	Emergency Classification
17. Natural Events	Any earthquake	Activation of >2 accelerographs and verified by actual physical ground shaking or by contacting Dr. David Willis, University of Wisconsin, Milwaukee Seismic Center at 1-414/963-4602.	Unusual Event
	Any tornado visible from site	Verification by Operations Supervisor	Unusual Event
	Low Lake Michigan water level	With no CW pumps running, water level is 3.9' below 0' on surge chamber level & confirmed by measuring forebay level at 10.9' below pumphouse floor (7' level)	Unusual Event
	Earthquake greater than operating basis earthquake	Earthquake with attendant structural damage of containment or spent fuel pit	Alert
	Any tornado striking the facility	Visual observation by Operations Supervisor	Alert
	Seiche near design level	>6" of water in turbine hall	Alert
	Winds in excess of design levels	Wind speed indicated as >100 mph	Alert
	Wind with damage	Structural damage to containment	Site Emergency
	Failure of protection for vital equipment at low levels (i.e., caused by seiche > design levels)	Any of the following: 1. >3' water in both EDG rooms. 2. >2' water in vital switchgear room. 3. >2' water in auxiliary feed pump room.	Site Emergency
18. Reactivity Transient	Uncontrolled rod withdrawal (FSAR 14.1.1 & 14.1.2)		Unusual Event
	RCVCS Malfunction (FSAR 14.1.5)		Unusual Event
	Accidental Criticality		NRC Only (3)

(3) See DCS 1.12.1 for 10 CFR 50.72 Notification.

Category	Initiating Condition	Indication Used	Emergency Classification
19. Load Transient	Loss of Electrical Load (FSAR 14.1.9)		Unusual Event
20. Other	Condition that warrants State and/or local official awareness	DCS & DSS concurrence	Unusual Event
	Condition that warrants establishment of technical support center & emergency support center	DCS & DSS concurrence	Alert
	Condition that warrants use of monitoring teams	DCS & DSS concurrence	Alert
	Personnel contamination	Health Physicist & DCS concurrence	NRC-only 1-hour (10)
	Any unplanned reactor trip	DCS & DSS concurrence	NRC-only 1-Hour (7)
	Strike by employees or guard force	DCS & DSS concurrence	NRC-only 1-Hour (12)
	Loss of red phone (ENS)	DCS & DSS concurrence	NRC-only 1-Hour (13)
	Personnel or procedural error	DCS & DSS concurrence	NRC-only 1-Hour (6)
	10 CFR 20.403	DCS & DSS concurrence	NRC-only 1-Hour (11)

(6) (7) (10) (11) (12) (13) See DCS 1.12.1 for 10 CFR 50.72 Notification

ESTIMATION OF SOURCE TERM

1.0 GENERAL

The purpose of this procedure is to estimate the source term (stack release rate in Ci/second) using the low range operational stack monitors, the Eberline RMS II Radiation Monitoring Systems or direct contact radiation measurements on the plant effluent vents. The plant effluent vent stacks are:

1.1 Auxiliary Building Vent (ABVNT)

1.2 Drumming Area Vent (DAVNT)

1.3 Gas Stripper Building Vent (GSBVNT)

1.4 Combined Air Ejector Decay Duct (CAE)

1.5 Main Steam Safety Valves and Atmospheric Dump Valves

2.0 REFERENCE

2.1 EDS Report to Wisconsin Electric Power Company concerning NUREG-0578, March 7, 1980.

3.0 PRECAUTIONS

3.1 If fuel damage or loss of reactor coolant system integrity has occurred, some or all of the following would be present:

3.1.1 The letdown radiation monitor (R9) may be unusually high or offscale.

3.1.2 The containment radiation monitors (R11 and R12) may be unusually high or offscale.

3.1.3 The containment area monitors (R2 and R7) may be unusually high or offscale.

3.1.4 The charging pump area monitor (R4) may be unusually high or offscale.

3.2 Health Physics procedures and requirements must be followed when applicable (i.e., entering a high radiation area).

3.3 Evaluation of the radiation monitoring system readouts and radiological hazards must be completed prior to any attempt to enter the auxiliary building or facade to take a contact reading on any stack.

3.4 If this procedure is being used for determination of emergency classification, use EPIP 1.8 "Emergency Off-Site Dose Estimations" for determination of projected dose off-site. EPIP 1.8 is a shorter, however more conservative procedure for determination of projected dose.

4.0 INITIAL CONDITIONS

4.1 Applicable portions of EPIP 1.2, "Plant Status", is completed.

5.0 PROCEDURE FOR Xe-133 EQUIVALENT RELEASE RATE ESTIMATE - WORKSHEET NO. 1

5.1 Chemistry/Health Physics Supervisor or Designated Alternate

5.1.1 Obtain EPIP-05 and EPIP-06 of EPIP 1.2, "Plant Status," for the radiation monitoring systems.

NOTE: IF EPIP-05 AND EPIP-06 IN EPIP 1.2, "PLANT STATUS," ARE NOT COMPLETED, OBTAIN THE METER READINGS FOR EACH PLANT EFFLUENT VENT STACK FROM THE REMOTE CONTROL ROOM READOUT AND RECORD THIS ON WORKSHEET NO. 1 AND THEN PROCEED WITH STEP 5.1.3.

NOTE: PLANT EFFLUENT VENT STACK MONITOR READINGS ARE ALSO AVAILABLE FROM THE TECHNICAL SUPPORT CENTER DATA LOGGER. SEE ATTACHMENTS 1.3-1, 2 & 3.

5.1.2 Enter the meter readings and flow rates in the appropriate columns on Worksheet No. 1 for the indicated vents. If the readings are offscale, not monitored, or the monitors are inoperable, enter the appropriate word "offscale," "not monitored," or "inoperable" in the meter reading column for the vent affected.

5.1.3 Designate individuals in accordance with ALARA concepts to obtain meter readings of the vents whose Eberline RMS II data is not available and the main steam header by performing Section 5.2 of this procedure if required.

NOTE: IF STEP 5.1.3 NEEDS TO BE COMPLETED BECAUSE EBERLINE RMS II DATA IS NOT AVAILABLE, OR IF A STEAM GENERATOR TUBE RUPTURE IS BELIEVED TO HAVE OCCURRED WHICH PRODUCES THE POTENTIAL FOR RELEASES, OR RELEASES ARE IN PROGRESS FROM THE MAIN STEAM HEADER OR THE ATMOSPHERIC STEAM DUMP, THEN PERFORM SECTION 5.3 OF THIS PROCEDURE AFTER APPROPRIATE MEASUREMENTS HAVE BEEN TAKEN IN SECTION 5.2.

5.1.4 Perform Section 5.3 of this procedure to determine the gross Xe-133 equivalent release rate estimate.

5.2 Direct Stack Survey Team Designees

NOTE: THE FOLLOWING SECTION WILL NOT BE INITIATED UNTIL THE EVALUATION DISCUSSED IN PRECAUTION 3.3 HAS BEEN COMPLETED AND THE SITE MANAGER (DUTY & CALL SUPERINTENDENT), THE DUTY & CALL HEALTH PHYSICS SUPERVISOR, AND THE DUTY SHIFT SUPERVISOR HAVE APPROVED INITIATION. THIS SECTION WILL BE ACCOMPLISHED UNDER THE DIRECTION OF HEALTH PHYSICS SUPERVISION.

5.2.1 Determine the most direct and desirable route to the plant effluent stack to be monitored.

5.2.2 Determine the Health Physics requirements to be met for the passage to the vent areas.

5.2.3 Determine the appropriate survey instrument to be used for the plant effluent vent to be monitored.

5.2.4 Proceed by the route determined in Step 5.2.1 to the stack and record the survey instrument reading in contact with the stack in the columns provided on Worksheet No. 1, Part C, Plant Effluent Vent Stack Contact Readings.

NOTE: IN THE CASE OF THE MAIN STEAM SAFETY VALVES AND ATMOSPHERIC STEAM DUMP VALVES, THE READING WILL BE TAKEN IN CONTACT WITH THE CENTERLINE OF THE MAIN STEAM HEADER, THREE FEET FROM THE MAIN STEAM LINE. SHIELD THE PROBE (WITH A MINIMUM OF .25 INCHES OF LEAD) ON THE SIDES FACING THE MAIN STEAM LINE AND THE CONTAINMENT.

5.3 Chemistry/Health Physics Supervisor or Designated Alternate

5.3.1 Choose the appropriate vent stack readouts in Part A, B, or C of Worksheet No. 1 to convert readings to a Xe-133 equivalent release rate. That is if the low range monitors go offscale, use the high range monitors. Conversely, if the normal monitors are onscale, use the normal monitors, or if both normal and high range monitors are offscale or inoperable, use the vent stack contact readings.

5.3.2 Use the appropriate attached conversion curves for each of the plant effluent vent to convert the chosen vent stack readout, (cpm or R/hour) and flow rate, from Step 5.3.1 to an Xe-133 equivalent release rate in Curies/second and record the value on Worksheet No. 1, Part F, Estimate of Gross Xe-133 Equivalent Release Rate. Enter the appropriate

word "offscale," "not monitored," or "inoperable" for the cases where the plant effluent vent was not monitored, offscale, or inoperable.

NOTE: THE FOLLOWING QUALIFYING NOTES MUST BE RECOGNIZED.

1. If the actual flow rate is different than the conversion curves flow rate, a ratio of:

$$\frac{\text{Actual Flow Rate}}{\text{Assumed Flow Rate}}$$

should be applied to determine the release rate.

(Ratio) x Release Rate Value = Adjusted Xe-133 5 Release Rate
= Equiv. Release Rate

2. If the main steam header vent release rate needs to be determined, the following steps must be applied.

a. Obtain from the Shift Supervisor an estimated flow rate through the main steam header in lbm/hour of steam being dumped to the environment and the specific volume (v) of the steam. At 1000 psia, specific volume is 0.446 $ft.^3/lbm$. At 500 psia, specific volume is 0.928 $ft.^3/lbm$.

_____ lbm/hr x v $\frac{ft.^3}{lbm}$ x 7.86 $\frac{cc}{ft.^3}$ $\frac{hr.}{sec.}$

b. Convert contact reading obtained at the main steam header to µCi/cc using the appropriate conversion factor (Worksheet No. 1 Sect. C) for the main steam header.

_____ µCi/cc

c. Multiply flow rate obtained in Step (a) by the concentration obtained in Step (b) to obtain the release rate (Xe-133 equivalent) from the main steam header.

Flow Rate (cc/sec.) x Concentration (µCi/cc) = Main Steam Header Release Rate

5.3.2 Sum the values (1) through (5) on Worksheet No. 1, Part F, or use grab sample results #7 on Worksheet No. 1, Part F, to determine the gross Xe-133 equivalent release rate.

NOTE: IF GRAB SAMPLE RESULTS ARE AVAILABLE, THE RESULT OF SUCH SAMPLES SHOULD BE MORE ACCURATE THAN GROSS MONITOR READINGS AND HENCE SHOULD BE USED IN LIEU OF THE RELEASE RATES CALCULATED ABOVE OR IN ADDITION TO THE ABOVE IF THE RELEASE IS FROM AN UNMONITORED RELEASE PATH.

5.3.3 Report the calculated gross Xe-133 equivalent release rate to the Shift Supervisor and the Technical Support Manager.

WORKSHEET NO. 1

Xe-133 EQUIVALENT RELEASE RATE

A. LOW RANGE OPERATIONAL VENT STACK READOUTS

Vent	Meter Reading (cpm)	Flow Rate (cfm)	Conversion Factor Ci/sec÷cpm	Xe-133 Equiv Release Rate Ci/sec
Auxiliary Building R14	_____	61400	5.8×10^{-9}	_____
Drumming Area R21	_____	43100	1.3×10^{-8}	_____
Gas Stripper Building GW-112	_____	13000	2.0×10^{-6}	_____
Combined Air Ejector Decay CR-9	_____	25	8.0×10^{-9}	_____

B. EBERLINE RMS - II VENT STACK READOUTS

NOTE: THESE READINGS ARE ALSO AVAILABLE ON THE TECHNICAL SUPPORT CENTER DATA LOGGER. ATTACHMENTS 1.3-1, 2, 3.

Vent	Meter Reading (R/hour)	Flow Rate (cfm)	Conversion Factor Ci/sec÷R/hr	Xe-133 Equiv. Release Rate Ci/sec
Auxiliary Building Ch. #1	_____	61400	3.0×10^{3}	_____
Drumming Area Ch. #2	_____	43100	2.1	_____
Gas Stripper Building Ch. #6	_____	13000	6.2×10^{2}	_____
Combined Air Ejector Decay Ch. #5	_____	25	3.4	_____

C. PLANT EFFLUENT VENT STACK CONTACT READINGS

Vent	Meter Reading R/hr)	Flow Rate (cfm)	Conversion Factor Ci/sec÷R/hr	Xe-133 Equiv. Release Rate Ci/sec
Auxiliary Building	_____	61400	30	_____
Drumming Area	_____	43100	2.3×10^{2}	_____
Gas Stripper Building	_____	13000	8×10^{4}	_____
Combined Air Ejector Decay	_____	25	1.6×10^{2}	_____
Main Steam Header	_____	(See Sect. E)	8×10^{5}	See Section E

D. ACTUAL VERSUS CONVERSION CURVE FLOW RATE RATIO

$$\frac{\text{Actual Flow Rate}}{\text{Assumed Flow Rate}} \times \text{Release Rate Value} = \text{Adjusted Releast Rate}$$

$$\left(\frac{\qquad}{\qquad}\right) \times \qquad = \qquad$$

E. STEAM HEADER CONTACT READING CALCULATION

1. lbm/hr x specific volume ft^3/lbm x 7.86 cc hr/ft^3 sec

NOTE: At 1000 psia specific volume = .446 ft^3/lbm
At 500 psia specific volume = .928 ft^3/lbm

_____ lbm/hr x _____ ft^3/lbm x 7.86 cc hr/ft^3 sec

= _____ cc/sec

2. Contact reading from Section C:

_____ R/hr = _____ µCi/cc

3. Steam header release rate:

Flow rate cc/sec x Concentration µCi/cc = Release Rate

$\underset{(1)}{\_\_\_\_}$ cc/sec x $\underset{(2)}{\_\_\_\_}$ x 10^{-6} Ci/cc = _____ Ci/sec

F. ESTIMATE OF GROSS Xe-133 EQUIVALENT RELEASE RATE

Vent	Xe-133 Equivalent Release Rate (Curies/Sec.)
1. Auxiliary Building	
2. Drumming Area	
3. Gas Stripper Building	
4. Combined Air Ejector Decay Duct	
5. Main Steam Header	
6. Sum	(Gross Xe-133 Equiv. Release Rate)

OR

7. Grab Sample Results = _____ Ci/sec.

Completed By _____ Time _____

Date _____

DRUMMING AREA VENT STACK RMS-II CH #2 AND
COMBINED AIR EJECTOR DISCHARGE RMS-II CH #5

VOLTAGE TO R/HR CONVERSION TABLE
RANGE 1 to 10^5 R/HR

Volts	Units R/hr
0.	.001
0.1	.001.35
0.2	.001.847
0.3	.002.511
0.4	.003.414
0.5	.004.641
0.6	.006.309
0.7	.008.576
0.8	.011.659
0.9	.015.848
1.	.021.544
1.1	.029.286
1.2	.039.810
1.3	.054.116
1.4	.073.564
1.5	.100
1.6	.135.935
1.7	.184.784
1.8	.251.188
1.9	.341.454
2.	.464.158
2.1	.630.957
2.2	.857.695
2.3	1.165.914
2.4	1.584.893
2.5	2.154.434
2.6	2.928.644
2.7	3.981.071
2.9	5.411.695
2.9	7.356.422
3.	10.000

UNIT 1 RMS-II CH #3 & UNIT 2 RMS-II CH #4
CONTAINMENT PURGE STACKS

VOLTAGE TO R/HR CONVERSION TABLES
RANGE 10^{-1} TO 10^{3} R/HR

Volts	Units - R/HR
0.	0.1
0.1	.135
0.2	.184
0.3	.251
0.4	.341
0.5	.464
0.6	.630
0.7	.857
0.8	1.165
0.9	1.584
1.	2.154
1.1	2.928
1.2	3.981
1.3	5.411
1.4	7.356
1.5	10.
1.6	13.593
1.7	18.478
1.8	25.118
1.9	34.145
2.	46.415
2.1	63.095
2.2	85.769
2.3	116.591
2.4	158.489
2.5	215.443
2.6	292.864
2.7	398.107
2.8	541.169
2.9	735.642
3.	1000.

AUXILIARY BUILDING VENT STACK RMS-II CH #1 &
GAS STRIPPER BUILDING VENT STACK RMS-II CH #2

VOLTAGE TO R/HR CONVERSION TABLE
RANGE 10^{-2} TO 10^{2} R/HR

Volts	Units - R/HR
0.	0.01
0.1	.013
0.2	.018
0.3	.025
0.4	.034
0.5	.046
0.6	.063
0.7	.085
0.8	.116
0.9	.158
1.	.215
1.1	.292
1.2	.398
1.3	.541
1.4	.735
1.5	1.
1.6	1.35
1.7	1.847
1.8	2.511
1.9	3.414
2.	4.641
2.1	6.309
2.2	8.576
2.3	11.659
2.4	15.848
2.5	21.544
2.6	29.286
2.7	39.810
2.8	54.116
2.9	73.564
3.	100.

LIMITED PLANT EVACUATION

1.0 GENERAL

This procedure describes the steps to be taken in the event of a limited plant evacuation. This procedure will be used when conditions warrant small areas inside the protected area to be evacuated. Assembly areas are defined on a case-by-case basis.

2.0 REFERENCES

None

3.0 PRECAUTIONS AND LIMITATIONS

3.1 All actions and notifications should be appropriately logged.

3.2 Health Physics personnel may require evacuation of rooms, areas, or the affected portions thereof to prevent the unnecessary spread of contamination.

4.0 INITIAL CONDITIONS

A limited plant evacuation will be considered when any of the following conditions exist.

4.1 Unanticipated radiation level increase at any area radiation monitor in excess of 100 mr/hr.

4.2 A non-scheduled containment evacuation alarm.

4.3 Unanticipated airborne activity at any area gas or particulate monitor which indicates activity in excess of the maximum permissible concentrations specified in Appendix B Table I to 10 CFR Part 20.

4.4 Excessive radioactive surface contamination levels due to a major spill of radioactive materials.

4.5 Other emergency conditions, such as fire, that may endanger human life or health as deemed necessary by the Duty Shift Supervisor or Health Physics Supervisor.

5.0 PROCEDURE

5.1 Shift Supervisor/Designee

5.1.1 Identify the areas that have to be evacuated.

5.1.2 Choose the assembly area where personnel will be relocated. If possible use the following areas:

a. Health physics station, if evacuation is from areas within the controlled area

or

b. Plant cafeteria, if evacuation is from areas outside the controlled area.

5.1.3 Fill in the underlined announcement blanks in Step 5.1.4 with the appropriate information determined in Steps 5.1.1 and 5.1.2.

5.1.4 Sound the plant evacuation alarm (and fire alarm if appropriate) and announce over the PA system: (NOTE: AN ANNOUNCEMENT CANNOT BE MADE WHILE THE ALARM IS SOUNDING.)

"ATTENTION, ALL PERSONNEL: THERE ARE CONDITIONS AT THE PLANT THAT WARRANT A LIMITED PLANT EVACUATION IN THE _____ AREA(S). ALL PERSONNEL IN THE AREA(S)
(Specify Area)
EVACUATE IMMEDIATELY AND REPORT TO THE _____ AND AWAIT FURTHER INSTRUCTIONS."
(Specify Area)

5.1.5 Repeat the alarm sounding and announcement two more times. Repeat the alarm and announcement again after an interval of two to five minutes.

5.1.6 Notify the Duty & Call Superintendent and Health Physicist of the limited plant evacuation.

5.1.7 Initiate EPIP 8.1, "Personnel Assembly and Accountability," if not already done.

5.1.8 Initiate EPIP 7.0, "CHP Radiological Response and Preparedness," as required.

5.1.9 Reevaluate the ability to re-enter evacuated area(s) and attempt to isolate affected area(s) as required.

5.1.10 Consider the initiation of EPIP 6.2, "Plant Evacuation," if the hazard continues to increase in severity.

5.1.11 Work may resume in evacuated area(s) when it has been determined by the Shift Supervisor and a Chemistry & Health Physics Supervisor that no significant radiation hazard or other hazard to personnel remain.

5.2 Health Physicist/Health Physics Supervisor

5.2.1 Determine the scope of the radiation and contamination problem by implementing radiation surveys of affected area(s).

5.2.2 Specifying appropriate protective devices, commence a decontamination operation and set up appropriate health physics postings of the affected area(s), if required.

EPIP 6.2
MINOR
Revision 2
01-28-83

PLANT EVACUATION

1.0 GENERAL

This procedure describes the steps and instructions to be taken in the event of a plant evacuation. This procedure will be used when conditions are such that the plant, including the protected area, must be evacuated. Assembly areas are defined in particular locations and are constant for all plant evacuations.

2.0 REFERENCES

None

3.0 PRECAUTIONS AND LIMITATIONS

3.1 All actions and notifications should be appropriately logged.

3.2 A plant evacuation will probably not be necessary for an Unusual Event or Alert classification.

3.3 Unless otherwise directed by supervision, personnel should exit the controlled area as they usually would after discarding protective clothing and frisking themselves at "Checkpoint Charlie."

3.4 Unless otherwise directed by the guard at the gatehouse, personnel leaving the protected area should punch out at the gatehouse, leave their ID badges at SAS and exit through the south door, bypassing all other monitoring devices.

4.0 INITIAL CONDITIONS

A plant evacuation will be considered when any of the following conditions exist.

4.1 Radiation levels in general areas of the protected area are in excess of 100 mr/hr.

4.2 Airborne activity in general areas of the protected area are in excess of maximum permissible concentration and exposures are expected to exceed 40 MPC hours.

4.3 Other emergency conditions where it is deemed necessary to evacuate nonessential personnel from the plant.

5.0 PROCEDURE

5.1 Shift Supervisor/Designee

5.1.1 Notify security personnel that a plant evacuation is imminent and instruct them to implement procedure PBSP 1.9, "Emergency Evacuation Procedure."

5.1.2 Notify the Duty & Call Superintendent, Duty Technical Advisor, and the Superintendent - Chemistry & Health Physics or Health Physicist of the impending plant evacuation.

5.1.3 Alert the Energy Information Center of the impending plant evacuation, by calling Ext. 246. Request that visitors be evacuated from the center using EPIP 6.4, "Energy Information Center Evacuation."

5.1.4 Sound the plant evacuation alarm and fishermen's pier evacuation alarm and announce over the P.A. System:

"ATTENTION ALL PERSONNEL, ATTENTION ALL PERSONNEL, THERE ARE CONDITIONS AT THE PLANT THAT WARRANT A PLANT EVACUATION. ALL PERSONNEL SHALL IMMEDIATELY ASSEMBLE IN THE FOLLOWING AREAS:

PLANT PERSONNEL WITH EMERGENCY DUTIES	REPORT TO ASSIGNED EMERGENCY LOCATIONS
PLANT PERSONNEL NOT ASSIGNED EMERGENCY DUTIES	REPORT TO EL. 18.5' OF THE TECHNICAL SUPPORT CENTER BUILDING
VISITORS AND CONTRACTORS	REPORT TO SITE BOUNDARY CONTROL CENTER

AND AWAIT FURTHER INSTRUCTIONS."

5.1.5 Repeat the alarm sounding and announcement two more times.

5.1.6 Initiate EPIP 8.1, "Personnel Assembly & Accountability," if not already done.

5.1.7 Initiate EPIP 7.0, "CHP Radiological Response and Preparedness," if not already done.

5.1.8 Consider the initiation of EPIP 6.3, "Exclusion Area Evacuation," if the hazard continues to increase in severity or spreads to areas outside the protected area or it is deemed necessary to evacuate personnel from established assembly areas at the plant.

5.1.9 Contact the Township of Two Creeks and request them to make the Two Creeks Town Hall available for an assembly area for plant personnel by calling 755-2049 or 755-4196.

NOTE: (Telephone numbers are applicable 24 hours per day.)

5.2 Visitors and Contractors

These persons should keep their dosimeters and TLD's, exit at the gatehouse, and report to the site boundary control center. When exiting the gatehouse, the portal monitors should be bypassed and the south door should be used. At the site boundary control center, people should remain in their cars except the supervisors doing accountability checks. After accountability is done, the Health Physics Director will determine what personnel monitoring will be required. After the Health Physics Director is satisfied with contamination levels, the dosimeters and TLD's will be collected prior to release.

5.3 Personnel Not Assigned Emergency Duties

These persons should keep their dosimeters and TLD's and report to the assembly area on the 18.5' level of the technical support center building.

EPIP 6.3
MINOR
Revision 1
01-28-83

EXCLUSION AREA EVACUATION

1.0 GENERAL

This procedure describe the steps and instructions to be taken if an exclusion area evacuation is anticipated. This procedure will be used when conditions are such that the plant and the area around it, i.e., energy information center, nature trail, switchyard, fishing pier and roadways to the exclusion gates, must be evacuated.

2.0 REFERENCES

None

3.0 PRECAUTIONS AND LIMITATIONS

3.1 All actions and notifications should be appropriately documented.

3.2 The security checkpoint, assembly area, personnel monitoring and decontamination station can be established at either the site boundary control center or the Two Creeks Town Hall. This will depend upon the magnitude of the release and meteorological conditions. The Health Physics Director will recommend to the Site Manager which facility is preferred.

4.0 PREREQUISITE CONDITIONS

4.1 EPIP 6.2, "Plant Evacuation," completed.

4.2 Exclusion area evacuation will be considered when any of the following conditions exist.

4.2.1 Radiation levels in general areas of the exclusion area are in excess of 10 mr/hr whole body dose rate. (See Section 1.0)

4.2.2 Airborne concentrations of radioiodine are greater than 5.3×10^{7} µCi/cc averaged over any two hour period in general areas of the exclusion area. (This would result in a two hour dose to the thyroid of 2 Rem assuming that the predominate isotope is I-131.)

4.2.3 When emergency or support personnel radiation doses in assembly areas and/or emergency response facilities are approaching or exceeding the following radiation dose limits:

a. Whole body gamma: 1.5 Rem

b. Thyroid: 5 Rem

c. Beta skin dose: 3 Rem

4.2.4 As other emergency conditions may dictate.

5.0 PROCEDURE

5.1 Designee

5.1.1 If not already done, contact the Township of Two Creeks and request them to make the Two Creeks Town Hall available for an assembly area for plant personnel by calling 755-2049 or 755-4196.

NOTE: (Telephone numbers are applicable 24 hours per day.)

5.1.2 Ensure that EPIP 6.2, "Plant Evacuation," is completed.

5.1.3 Instruct the Chemistry/Health Physics Supervisor and the Health Physics Director to identify assembly areas or support centers that must be evacuated in accordance with the exposure criteria listed in Section 4.2 above.

5.1.4 Instruct the Health Physics Director to establish a personnel monitoring and decontamination station at the Two Creeks Town Hall or the site boundary control center.

5.1.5 Instruct the Shift Security Lieutenant to establish a check point and assembly area at the Two Creeks Town Hall or site boundary control center.

5.1.6 For each assembly area or support center identified for need of evacuation in Step 5.1.3, designate the alternate location to be used. If possible, use the alternate areas listed in the following table.

Support Center or Assembly Area to be Evacuated	Alternate Location to be Used
Technical Support Center	Control Room
Security Building (Extension Building)	Site Boundary Control Center or Two Creeks Town Hall
Onsite Operations Support Center (Staging Area)	Site Boundary Control Center or Two Creeks Town Hall

Emergency Support Center	Two Creeks Town Hall
Site Boundary Control Center	Two Creeks Town Hall

5.1.7 Inform each assembly area and support center identified in Step 5.1.3 that personnel must be evacuated and communicate to them the following information.

a. The alternate location to which personnel should report (Refer to step 5.1.6 of this procedure).

b. Preferred route to follow to the alternate assembly area.

c. Protective measures to be taken by personnel before they evacuate the area.

d. After arriving at new assembly area, initiate personnel accountability procedures in accordance with EPIP 8.1, "Personnel Assembly and Accountability," and report results to the technical support center or control room.

5.1.8 Continue to update all assembly areas and support centers with respect to where personnel should report and insure that personnel are made aware of possible radiation hazards in areas requiring access and re-entry.

5.1.9 Re-evaluate the ability to re-enter plant assembly areas or support centers and attempt to isolate affected areas as required.

EPIP 7.3.2
MINOR
Revision 5
01-28-83

POST-ACCIDENT SAMPLING AND ANALYSIS OF POTENTIALLY HIGH LEVEL REACTOR COOLANT

1.0 INTRODUCTION

1.1 This procedure outlines the steps necessary to collect, handle and analyze a high level reactor coolant sample which could result from gross fuel failure.

1.2 Equipment List

Set up the following in the primary sample hood prior to collecting your sample:

1.2.1 The equipment detailed in Figures 2A and 2B, with the exception of the sample bomb.

1.2.2 Two magnetic stirrers and two 50 ml poly beakers and a 50 ml beaker.

1.2.3 A pH/mv meter, pH probe and chloride/reference electrodes.

1.2.4 A piston burette.

1.2.5 A lead brick wall of sufficient size to store residue from analysis.

1.2.6 Chemical transfer pump.

1.2.7 Remote handling tools located in the cabinet below the hood.

1.2.8 Prepare a 1.0 liter sidearm flask with a correctly sized solid stopper and rubber septum over the sidearm.

1.2.9 Gas syringe

The following equipment is also necessary for this procedure and need to be made ready.

1.2.10 The gas partitioner for H_2 analysis.

1.2.11 The special cart used for transport of the sample bomb.

1.2.12 Tools for connecting and disconnecting sample bomb; i.e., 11/16" open end wrench or equivalent.

1.2.13 Remote valve turning tool. This tool as well as those mentioned in Step 1.2.12 are necessary for sampling and should be taken along and placed on the sample bomb transport cart.

The following reagents are also necessary and need to be prepared.

1.2.14 0.1N NaOH for boron. Obtain a supply from normal boron analysis.

1.2.15 2.0M HNO_3 for chloride analysis.

1.2.16 Manitol for boron analysis.

1.3 Preliminary Steps — Initials

1.3.1 Standardize the pH meter. _____

1.3.2 Organize as much of the equipment as possible behind lead brick walls in an arrangement that allows for unobstructed view of all operations with the aid of the convex mirror. (See Figure 2.) _____

1.3.3 Put new rubber septum on gas bomb. _____

1.3.4 Condition and check out chloride/reference electrodes. _____

1.3.5 Check out and prime the piston burette with fresh 0.1N NaOH solution. _____

1.3.6 Check out the operation and calibration of the chemical transfer pump by pumping chloride free deionized water through the pump. _____

2.0 PRELIMINARY EVALUATION

NOTE: THIS EVALUATION SHALL BE COMPLETED PRIOR TO ANY ATTEMPT TO ENTER THE AUXILIARY BUILDING OR SAMPLE ROOM TO OBTAIN A REACTOR COOLANT SAMPLE UNDER EMERGENCY CONDITIONS.

2.1 Possible Indication of Fuel Damage — Initials

Some or all of the following would be present if fuel damage had occurred:

2.1.1 The letdown radiation monitor (R9) would be unusually high or offscale. _____

2.1.2 The containment radiation monitors (R11 and R12) would be unusually high or offscale. _____

2.1.3 The containment area monitors (R2 and R7) would be reading unusually high or offscale. _____

2.1.4 The auxiliary building stack monitor (R14) would show a significant increase due to auxiliary building airborne activity from the letdown and charging pump areas. _____

2.1.5 Evaluation of Sample Room Conditions

a. The sample room area monitor (R6) and charging pump area monitor (R4) would give an indication of conditions in the auxiliary building and sample room. _____

b. After evaluation of the radiation monitoring system readouts, Health Physics will determine what airborne and radiation surveys would be appropriate before auxiliary building entry. _____

c. Verify the requirements for auxiliary building sample room entry, i.e., (1) RWP requirements, (2) clothing requirements, (3) respiratory requirements, and (4) dosimetry requirements including extremity dose monitoring requirements, and (5) health physics coverage requirements including timekeeping. _____

2.2 Possible Loss of Component Cooling

2.2.1 Verify that component cooling is still in service to the affected unit. Sample cannot be obtained without component cooling to sample room heat exchangers. _____

3.0 REACTOR COOLANT SAMPLING PROCEDURE

NOTE: THIS PROCEDURE SHALL NOT BE INITIATED UNTIL THE EVALUATIONS DISCUSSED IN SECTION 2.0 HAVE BEEN COMPLETED AND REVIEWED BY DUTY & CALL SUPERINTENDENT (COORDINATOR), DUTY HEALTH PHYSICS SUPERVISION AND THE DUTY SHIFT SUPERVISOR, AND THEIR APPROVAL HAS BEEN GRANTED.

3.1 Collecting a Pressurized Sample (Refer to Figure 1) Initials

NOTE: THE FOLLOWING STEPS WILL BE ACCOMPLISHED UNDER THE DIRECTION OF HEALTH PHYSICS SUPERVISION AND ONLY AFTER COMPLETING SECTION 1.0 OF THIS PROCEDURE.

3.1.1 The following steps (a through f) must be accomplished before opening the incontainment sample isolation valve 955 (Step 3.1.2) and the hot leg sample isolation valve 966C (Step 3.1.3). _____

a. Verify that the demineralized water header pressure is approximately 100 to 120 psi. _____

NOTE: THIS STEP MAY BE DELETED IF REACTOR MAKEUP WATER IS USED FOR THE FLUSH.

b. Proceed to the sample room and install the shielded sample bomb on the outside wall of the sample room using the fittings provided.

CAUTION: BEFORE REMOVING THE SWAGE LOCK CAPS TO INSTALL THE BOMB, OPEN VALVES 939, 940 AND 941 TO RELIEVE SYSTEM PRESSURE. CLOSE VALVES 939, 940 AND 941. PLACE A WASTE BUCKET DIRECTLY UNDER THE BOMB. USE A PAPER TOWEL SHIELD AND RUBBER GLOVES WHEN REMOVING CAPS.

After installing the bomb verify that the dimineralized water line is connected from valve 945 to the demineralized water manifold. Open demineralized H_2O valves 945, 947, and 948 and check for leaks on the bomb fittings. Shut valves 945, 947, and 948. _____

c. Enter the sample room and close the following valves on the sample panel.

1. 961C - Normal hot leg sample bomb inlet. _____

2. 964C - normal hot leg sample bomb outlet. _____

3. 965C - normal hot leg sample bypass. _____

4. 968 - normal hot leg return valve. _____

5. 971 - normal hot leg sink sample valve. _____

d. Further verify that there is component cooling flow to the sample room heat exchangers by viewing the local flow indicator (FI-603) on the sample panel. _____

e. Open the following valves on the sample panel.

1. 969A - sample system purge to volume control tank. _____

2. 956C - normal hot leg sample supply valve. _____

3. 990 - residual heat removal sample supply valve. _____

f. Open valve 938 (high level hot leg sample valve) located on the wall behind the sample panel. _____

g. Leave the sample room and open the following valves on the sample room wall.

1. 939 - sample bomb inlet. (Wide Open) _____

2. 940 - sample bomb bypass. (Wide Open) _____

3. 941 - sample bomb outlet. (Wide Open) _____

NOTE: FOR DRILLS AND PRACTICE OPEN VALVE 941 ONLY ONE-QUARTER TURN TO ELIMINATE N-16 GAMMAS.

3.1.2 Open the incontainment hot leg sample isolation valve (valve 955) and the residual heat removal sample isolation valve (valve 959) by means of the switches located outside the No. 1 pipeway for Unit 1 or No. 4 pipeway for Unit 2. _____

CAUTION: IF THE AFFECTED UNIT IS ALREADY ON RHR, LEAVE THE AREA IMMEDIATELY AFTER OPENING VALVE 959 AS BACKGROUND RADIATION LEVELS WILL RISE SHARPLY.

If the valve No. 955 will not open because of containment isolation, perform the following steps (1 through 3). _____

1. Request that the Control Room reset the containment isolation signal. _____

2. Turn the local control switch positions for valves 951, 953, and 955 to the "close" position. _____

3. Turn the local control switch for valve 955 to the "open" position. _____

NOTE: SECTION 3.1.2 MUST BE ACCOMPLISHED BEFORE SAFETY INJECTION RECIRCULATION HAS BEGUN.

3.1.3 Leave the area and request control room supervision to open the hot leg sample isolation valve (966C). _____

3.1.4 Verify sample flow by radiation level. _____

3.1.5 After a recirc time of 30 minutes, return to the sample station and using the remote valve operating tool, fully open valves 9B and 9A and 8A and 8B. _____

a. Slowly and completely close valve 940. _____

b. Leave the primary auxiliary building. _____

NOTE: THE VALVE OPERATING TOOL SHOULD BE USED TO OPERATE ALL VALVES EXCEPT 945, 946, 947 AND 948 (FLUSH VALVES).

3.1.6 After 15 additional minutes, return to collect the sample. Close valves 9B and 9A and then valves 8B and 8A using the remote valve operating tool. Make note of the sample collection time. _____

NOTE: DO NOT DISCONNECT THE SAMPLE BOMB UNTIL SAMPLE FLOW IS SECURED AND THE DI FLUSH IS COMPLETE AS EVIDENCED BY REDUCTION IN RADIATION LEVELS.

3.1.7 Request control room supervision to immediately close the hot leg sample isolation valve 966C. _____

NOTE: IT IS VERY IMPORTANT THAT THE HOT LEG SAMPLE ISOLATION VALVE 966C IS CLOSED PRIOR TO STARTING THE DI FLUSH. WAIT FOR CONFIRMATION FROM THE CONTROL ROOM.

4.0 SAMPLE LINE FLUSHING

4.1 Leave valve 939 open, and fully open valves 940 and 941. Open valves 945 and 946. Allow the lines to flush for at least 15 minutes. Do not remain in the area of the sample station during this flush. _____

4.2 After about 15 minutes return and measure radiation levels. If a Chemistry & Health Physics Supervisor determines that the levels are satisfactory, close whitey valve 946 and using the remote valve tool, close valve 939. Then open valve 947 and valve 948 and allow about a 15-minute DI flush. _____

4.3 After about 15 minutes, close valves 940 and 941 with the remote valve tool and then close valves 945, 947, and 948. Disconnect valve 945 from the demineralized water manifold and cap both ends. Disconnect the sample bomb from the fittings using a paper towel to prevent spraying. Remove the shielded sample bomb from its support. Remove excess liquid from the top and bottom bomb fittings with a syringe and dispose behind lead shielding. Replace the Swagelok caps on the wall fittings and on the bomb. Transport the bomb, remote valve tool and wrenches to the chemistry lab on a cart. _____

NOTE: AFTER DRILLS AND PRACTICE RUNS, RETURN ALL EQUIPMENT AND VALVE LINEUPS TO NORMAL AS FOLLOWS:

CLOSE VALVES:

1. 966C - Containment hot leg sample isolation valve _____
2. 961C - Normal hot leg sample bomb inlet _____
3. 964C - Normal hot leg sample bomb outlet _____
4. 965C - Normal hot leg sample bypass _____
5. 971 - Normal hot leg sink sample valve _____
6. 938 - High level hot leg sample valve _____
7. 939 - High level sample bomb inlet _____
8. 940 - High level sample bomb bypass _____
9. 941 - High level sample bomb outlet _____
10. 945, 946, 947, 948 - Demineralized water flush valves _____

NOTE: DISCONNECT VALVE 945 FROM THE DEMINERALIZED WATER MANIFOLD. ADVISE CONTROL TO REDUCE DEMINERALIZED WATER HEADER PRESSURE TO NORMAL.

OPEN VALVES:

1. 956C - Normal hot leg sample supply valve _____

2. 968 - Normal hot leg return valve _____

3. 969A - Sample system purge to volume control tank _____

5.0 SEPARATION OF THE PRESSURIZED SAMPLE AND ANALYSIS OF THE GASEOUS AND LIQUID COMPONENT (Refer to Figures 2A and 2B)

5.1 Collecting the Gaseous Sample From the Pressurized Sample

5.1.1 Place the shielded sample bomb in the sample holder in the primary sample hood. _____

5.1.2 Connect the sample bomb to the shielded gas collection bomb by means of the fittings provided. Place lead bricks in the area of this connection for shielding. _____

5.1.3 Connect the valve manifold to the opposite end of the sample bomb and verify that valve 11 on the manifold is open. _____

5.1.4 Make sure that the vacuum line is attached to the gas collection bomb at the valve 1 location. Open valves 1 and 2. Secure valve 3. Evacuate the gas bomb and connecting lines. With vacuum still on, secure valve 1. Secure vacuum. _____

5.1.5 Before proceeding, make sure no inleakage has occurred into the gas bomb by observing the vacuum gauge reading. Using the remote valve tool, fully open valves 9A and 9B. Open valve 8A one-quarter turn. Crack open valve 8B and control degassing by throttling valve 8B. Allow the system to degas for 5 minutes. Check that valves 9A and 9B, 8A and 8B are fully open. Close valve 2. _____

NOTE: OBSERVE THE VACUUM GAUGE. THE VACUUM SHOULD DROP VERY SLOWLY. IF THE DROP IS TOO RAPID, CLOSE VALVE 8B SLIGHTLY. DROP SHOULD BE 5-10" HG/MIN.

5.2 Analysis of Gaseous Sample

5.2.1 Hydrogen

Use a syringe to draw a 1 cc sample. Use the injection port on the gas partitioner for this analysis. _____

5.2.2 Radioactive Noble Gas

Use a syringe to draw a 1/2 cc sample and inject this into the flask prepared in Section 1.2.8.* Allow 30 minutes for thermal mixing. Draw a 1/2 cc sample of this dilution and proceed as normal. _____

*Additional dilution should be performed if the contact reading is >1 mr/hour.

NOTE: SEE SECTIONS 7.0 AND 8.0.

5.3 Collecting the Liquid Sample From the Pressurized Sample

5.3.1 Add one drop of 2 M nitric acid (per 10 ml of sample) to the chloride beaker for pH adjustment. _____

NOTE: IT IS EXTREMELY IMPORTANT TO VERIFY THAT VALVE 2 HAS BEEN CLOSED BEFORE PROCEEDING.

5.3.2 Open valve 3 slowly. Allow the liquid sample to drain into the 50 ml beaker. Direct a slow stream of air through the vent line on valve 3 if necessary to recover the total liquid sample. _____

5.3.3 Close valves 8A and 8B, 9A and 9B, and valve 3. _____

5.4 Analysis of Liquid Samples

5.4.1 Boron/pH Analysis

a. Transfer a 5 ml sample using the chemical transfer pump into a 50 ml poly beaker containing a stir bar. _____

NOTE: OBSERVE THE TRANSFER PUMP OPERATION. WHEN SAMPLE BEGINS TO ENTER THE BEAKER, THE TRANSFER RATE IS 0.5 ML/SECOND OR 10 SEC = 5 ML.

b. After transfer is complete, record the pH. _____

c. Plug in the magnetic stirrer, add mannitol, and proceed with the boron analysis. _____

NOTE: IF THE PRIMARY SYSTEM HAS BEEN BORATED, 5 ML OR MORE OF TITRANT MAY BE NEEDED TO REACH AN ENDPOINT.

NOTE: AFTER DRILLS AND PRACTICE RUNS, THE BORON TITRATOR MUST BE FLUSHED WITH DEIONIZED WATER AND PUT IN DRY LAY-UP. ALL ELECTRODES SHOULD BE PLACED IN LAYUP SO THEY ARE CONDITIONED FOR IMMEDIATE USE.

5.4.2 Chloride Analysis

Transfer the remainder of the sample to the second poly beaker containing the chloride electrode. Start the stirring action and record the potential. Use the calibration curve for the chloride electrode to determine chloride concentration.

NOTE: CHLORIDE SAMPLE MUST BE pH ADJUSTED. SEE STEP 5.3.1.

NOTE: HIGH LEVELS OF RADIOACTIVE IODINE IN THE COOLANT WILL INTERFERE WITH THE CHLORIDE ANALYSIS. REFER TO THE ATTACHED IODINE/ CHLORIDE CORRECTION CURVE (ATTACHMENT 7.3.2-1) TO MAKE THE PROPER ADJUSTMENT TO THE CHLORIDE ELECTRODE ANALYSIS.

5.4.3 Iodine Analysis and Gamma Scan

Using the specially prepared 2 cc syringe, withdraw 0.3 cc of the sample from the poly beaker used for the chloride analysis and inject this sample into a 1000 ml poly bottle containing demineralized water. Make additional dilutions in the same manner.* Count as normal.

*Additional dilution should be performed until the contact reading is <1 mr/hour.

NOTE: SEE SECTIONS 7.0 AND 8.0.

5.5 Reporting of Results

Complete and forward Reactor Coolant Post-Accident Sampling Analysis Report (EPIP-30).

6.0 SAMPLE RESIDUE

Place all sample residue in the specially prepared lead pig for disposal.

7.0 SAMPLES TAKEN TO KEWAUNEE NUCLEAR PLANT FOR COUNTING

Reference: Post-accident counting agreement with Wisconsin Public Service, Kewaunee Nuclear Plant.

Kewaunee Nuclear Plant does not utilize the 5 cc glass vial and 1 cc test tube geometries. Therefore, "normal" samples will have to be diluted and placed in one liter poly bottles if they are sent to the Kewaunee Nuclear Plant for analysis.

8.0 LABELING OF SAMPLES

Label all chloride, noble gas, iodine and gamma scan samples with all pertinent information such as: sample number, name of sample, date and time of sampling, sample volume and dilution(s).

ATTACHMENT 7.3.2-1

CORRECTION FOR REACTOR COOLANT IODINE
INTERFERENCE WITH CHLORIDE ELECTRODE RESPONSE

1.0 INTRODUCTION

Chloride as determined by the chloride specific ion electrode is subject to interference caused by the presence of high levels of other halogens, specifically iodine. The following procedure outlines the method used to estimate the correction for this interference.

2.0 PROCEDURE

2.1 Measure the chloride concentration using the chloride specific ion electrode.

2.2 Perform the iodine analyses as outlined in Section 5.4.3 of this procedure.

2.3 Convert the iodine concentration to ppm using the following conversion factors.

Isotope	µCi/cc → ppm Conversion Factor
I-130	2.54×10^{-5}
I-131	3.85×10^{-4}
I-132	4.71×10^{-6}
I-133	4.23×10^{-5}
I-134	1.78×10^{-6}
I-135	1.38×10^{-5}

2.4 Sum the concentration, in ppm, of each iodine isotope and use the attached curve to determine the estimated chloride concentration correction factor.

3.0 EXAMPLE

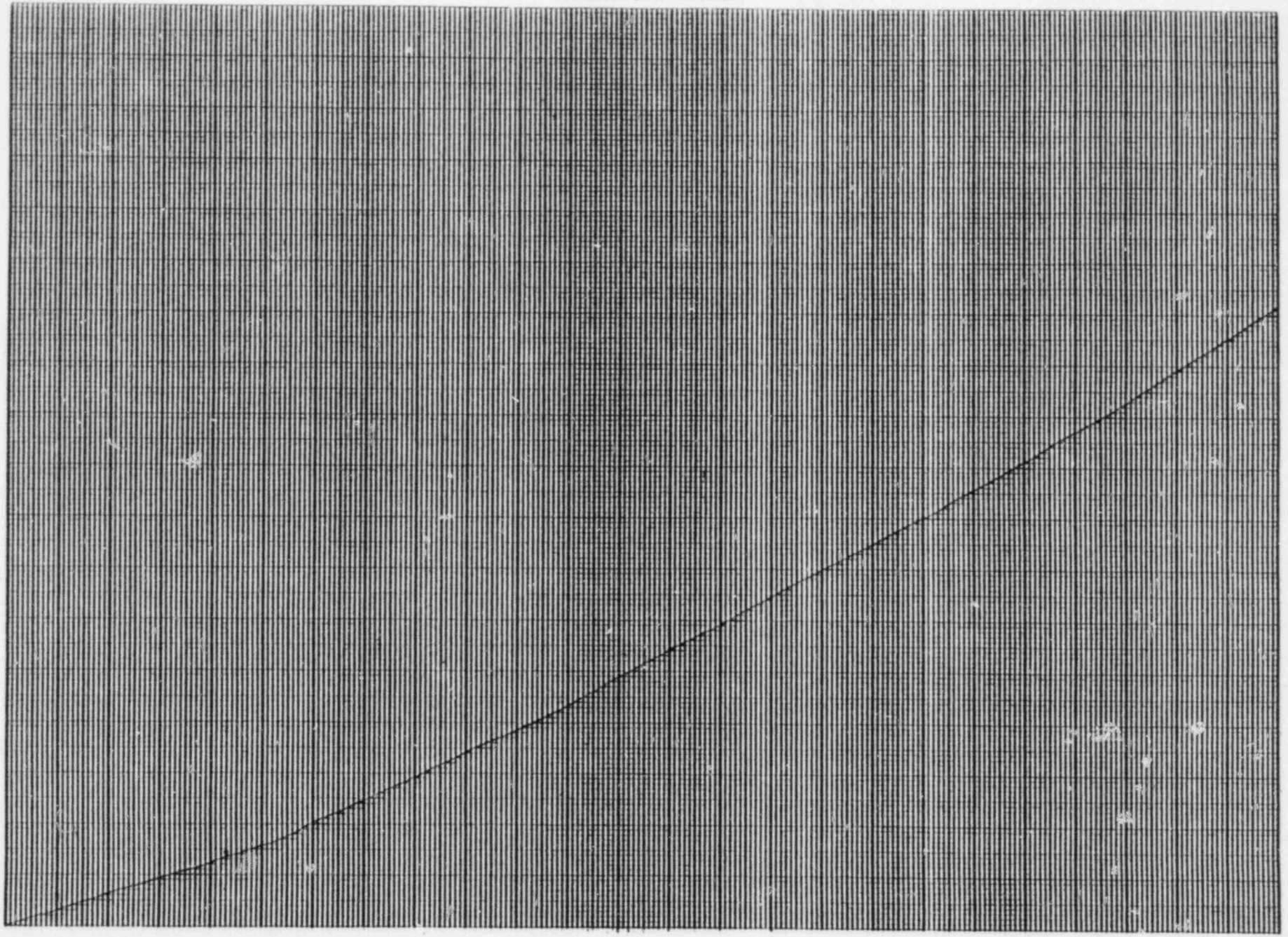
Reactor Coolant Analysis

Isotope	Concentration (µCi/cc)		Conversion Factor	Estimated Concentration (ppm)
I-131	2.56×10^{3} µCi/cc	X	3.85×10^{-4}	9.86×10^{-1}
I-133	1.45×10^{2} µCi/cc	X	4.23×10^{-5}	6.13×10^{-3}
I-135	5.65×10^{3} µCi/cc	X	1.38×10^{-5}	7.80×10^{-2}
TOTAL				1.07 ppm

Chloride concentration from correction curve (ppm) = 0.42 ppm

Subtract this value from the chloride concentration determined by the chloride electrode.

CHLORIDE ELECTRODE - IODINE INTERFERENCE
CORRECTION CURVE



ATTACHMENT 7.3.2-1 (cont.)

Figure 1

CALCULATION SHEET

SHEET _____ OF _____

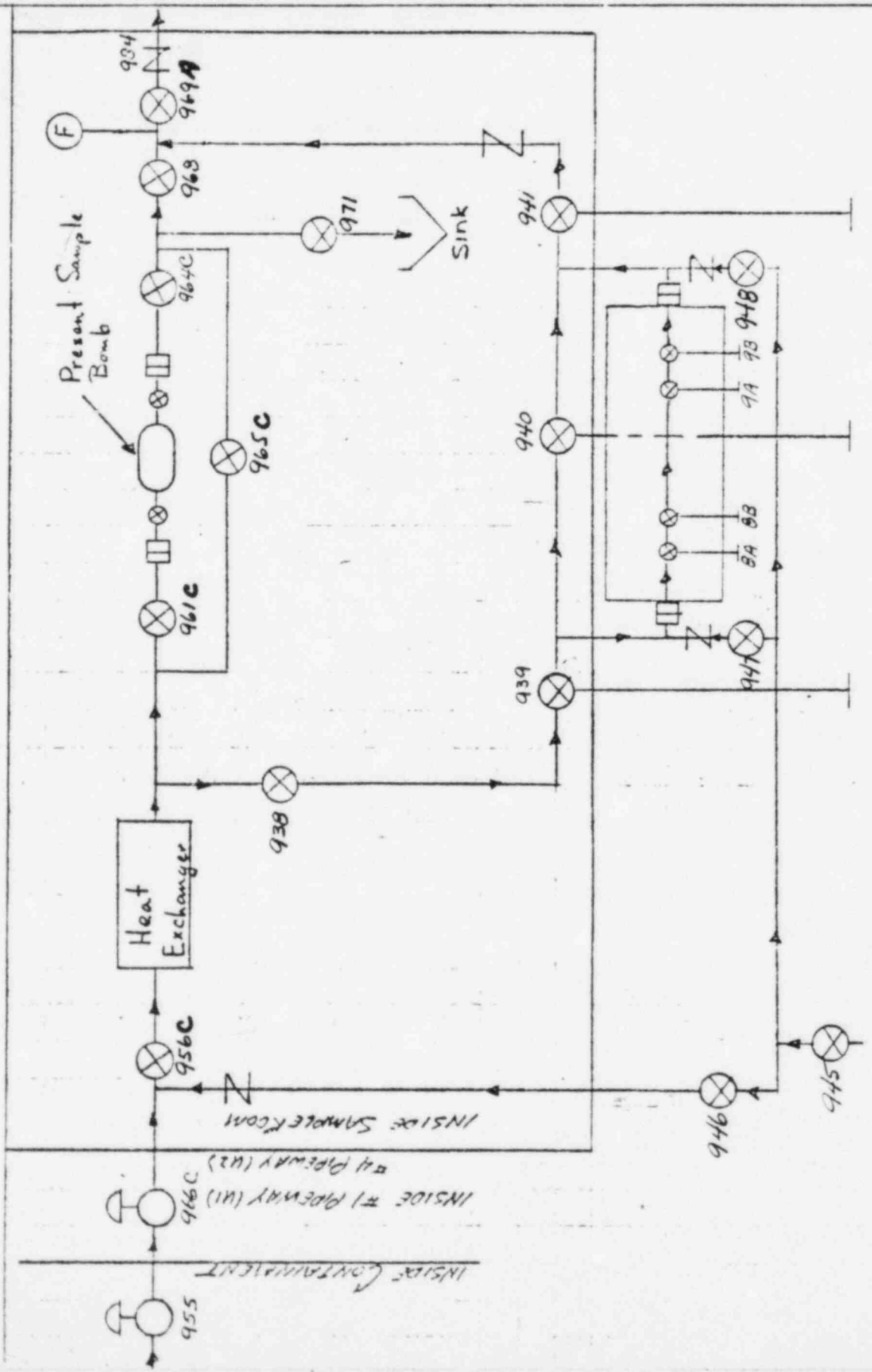
FILE No. REV 1

S CT _____ To VCT

High Level Coolant Sampling Flow Diagram

MADE BY PJS DATE 1/3/90

CHKD. BY CHH DATE 1/3/90



CALCULATION SHEET

SHEET _____ OF _____

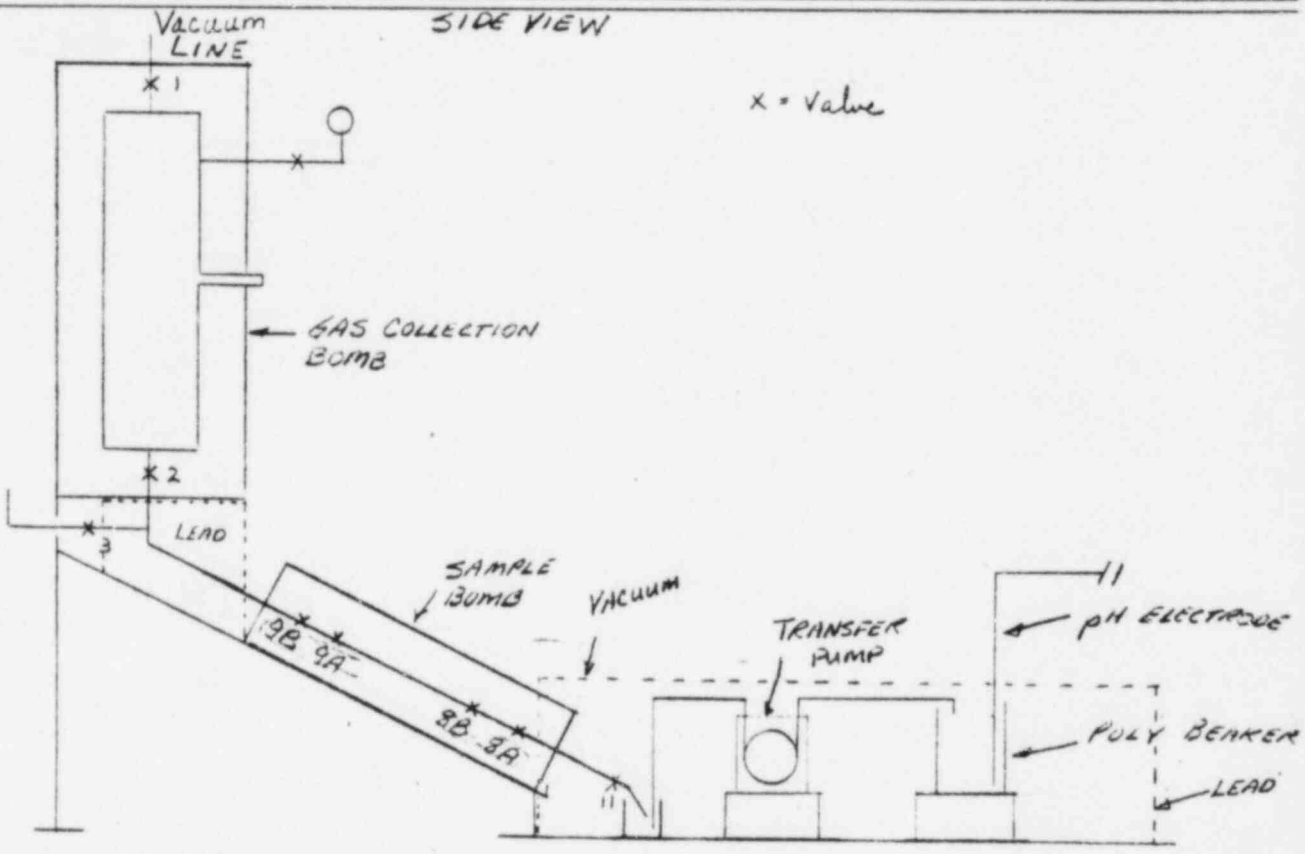
FILE No. _____

FIGURE 2A

MADE BY _____ DATE _____

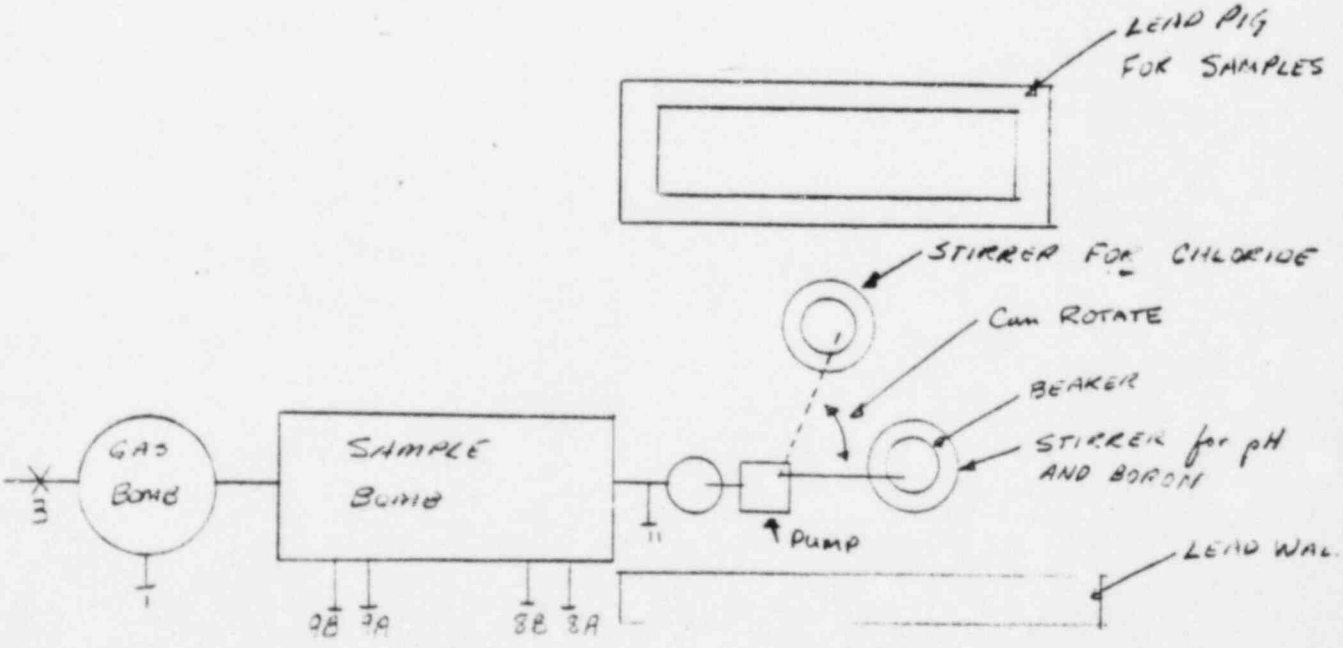
CHKD. BY _____ DATE _____

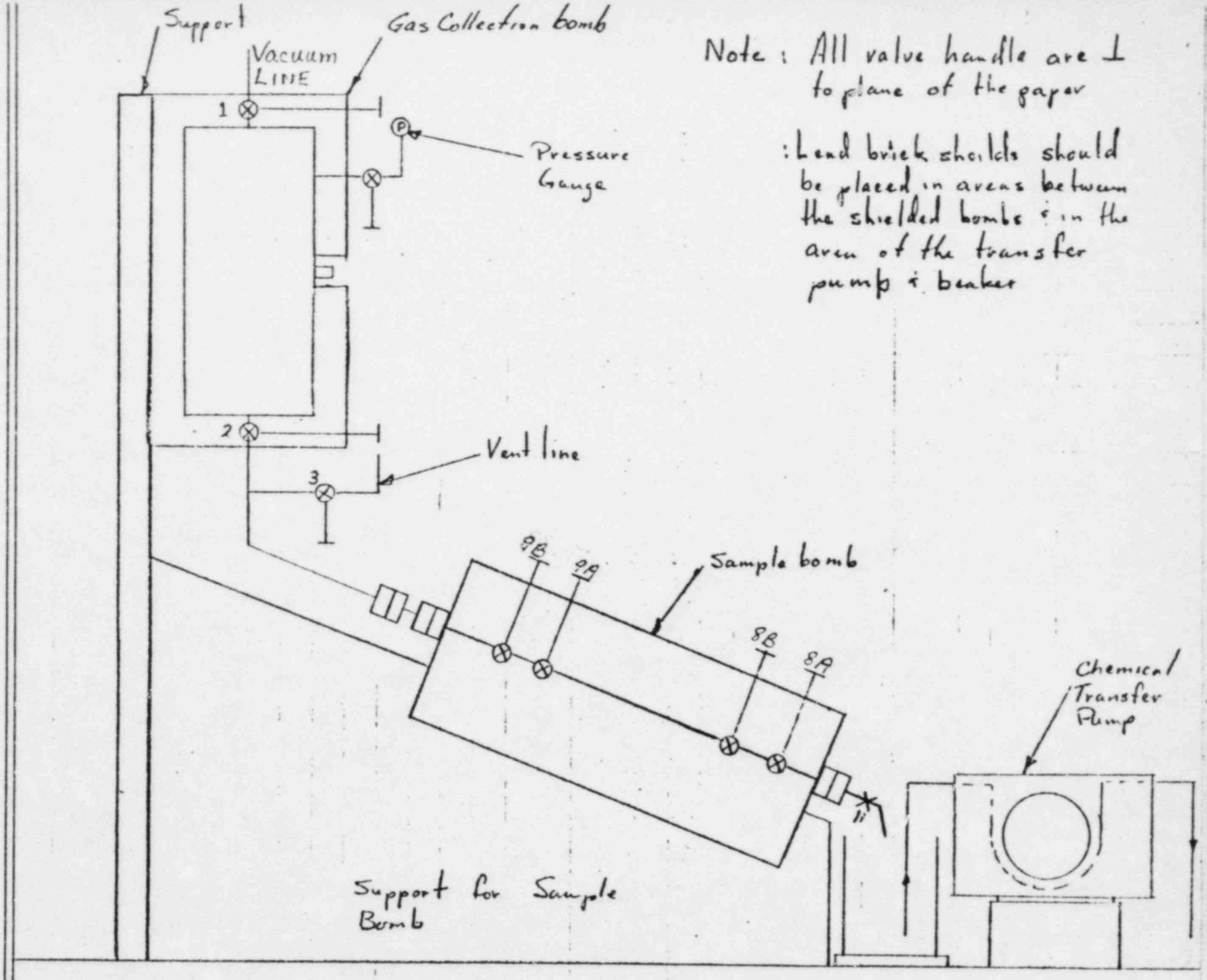
SIDE VIEW



x = Valve

TOP VIEW





Note : All valve handle are ⊥ to plane of the paper

: Lead brick shields should be placed in areas between the shielded bombs & in the area of the transfer pump & beaker

Figure 2 B

CALCULATION SHEET

Sample Bomb Laboratory

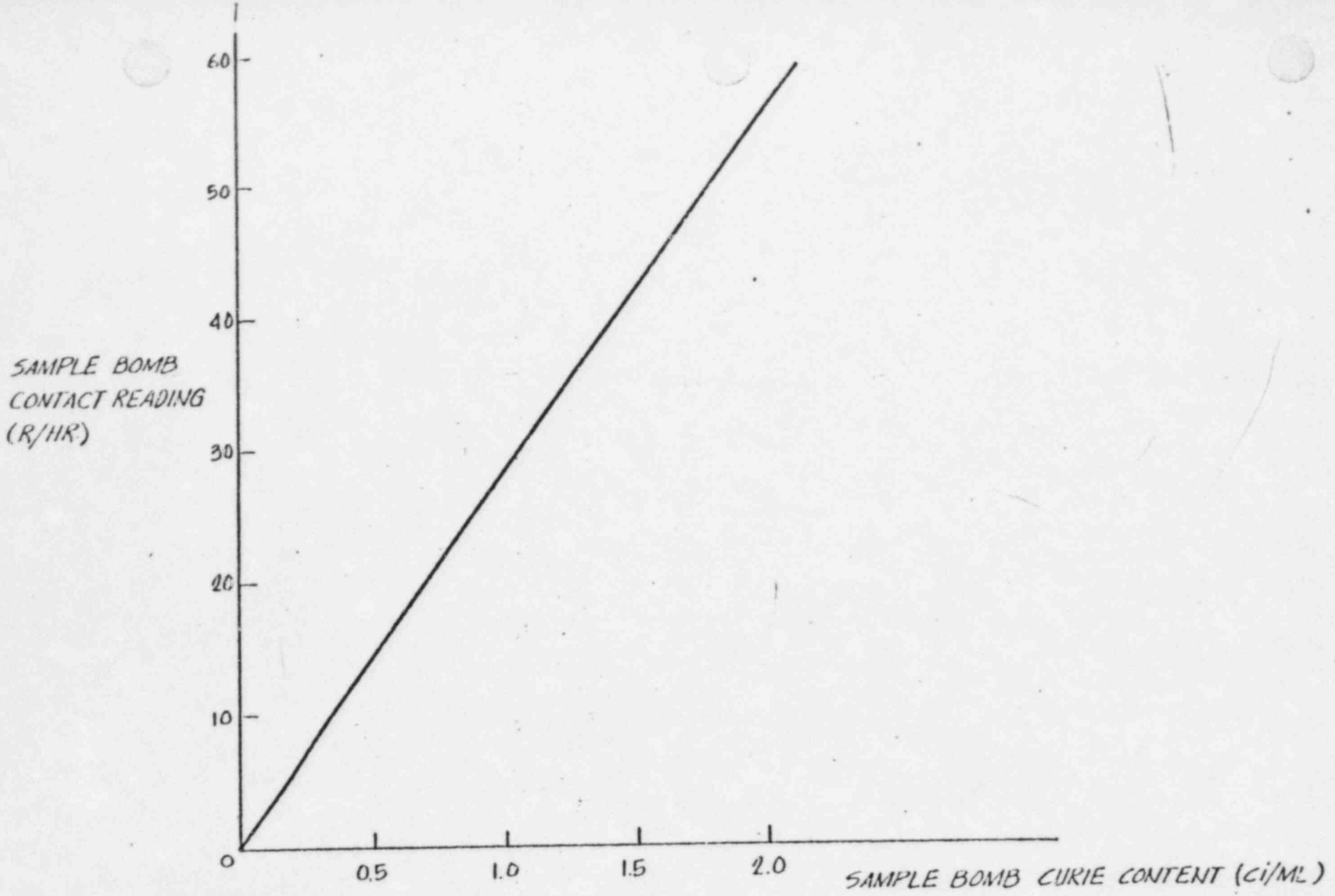
Set up

SHEET _____ OF _____

FILE No. _____

MADE BY RJS DATE 1/3/80

CHKD. BY CHH DATE 1/3/80



REV.	DATE	REVISIONS	BY	REV'D	APPR'D
A	12-21-77	INITIAL ISSUE PRELIMINARY	HR	NPM	

eldis nuclear

SAMPLE BOMB CURIE CONTENT VS. CONTACT READING - ONE RCS DILUTION, NO RECIRCULATION
POINT BEACH NUCLEAR PLANT
UNIT 1 & 2
WISCONSIN ELECTRIC POWER CO.
MILWAUKEE, WISCONSIN

SCALE N.T.S.
JOB NO. 0870-001
DRAWING NO. FIGURE 1 2.1.8.a
REV. A
SHEET 1 OF 1

PERSONNEL ASSEMBLY AND ACCOUNTABILITY

1.0 GENERAL

The purpose of this procedure is to detail a method for (1) the assembly of personnel on the plant site in the event of an emergency situation and (2) the subsequent accounting of personnel. The goal of this procedure is to account for all personnel within 30 minutes of the evacuation alarm.

2.0 PRECAUTIONS & LIMITATIONS

2.1 Personnel accountability roster sheets (forms EPIP-17 and EPIP-18, attached) must be completed quickly and accurately and forwarded to the appropriate supervisor as soon as possible.

3.0 INITIAL CONDITIONS

3.1 An emergency has been declared as a result of plant conditions.

3.2 A limited plant, plant, or an exclusion area evacuation has been ordered requiring the accountability of all personnel in the area evacuated.

3.3 The Shift Supervisor has determined that personnel assembly and accountability is necessary.

4.0 PROCEDURE

4.1 Shift Supervisor

4.1.1 Determine and communicate as required any special instructions necessary for safe evacuation of personnel in the plant (for example, verbally communicate the assembly areas, designate any assembly area not to be used, designate certain areas of the plant to be avoided, etc.).

Assembly Areas

For Evacuation:

Control Room*

Technical Support Center*

Site Boundary Control Center*

Emergency Support Center*

Security Building (Extension Building)* and Gatehouse

For Limited Plant Evacuation:

Health Physics Station
Cafeteria

For Plant Evacuation:

Operations Support Center*, El. 8', TSC Building
Evacuation Assembly Area El. 18.5', TSC Building

For Exclusion Area Evacuation:

Two Creeks Town Hall

*Center for emergency operation.

4.2 Security Shift Lieutenant

4.2.1 Designate an individual to perform Section 4.4 of this procedure for security posts.

4.2.2 Obtain a list of all personnel currently on the plant site from the appropriate security systems (badge checks, computer printouts, etc.)

4.2.3 As attendance is reported from the assembly areas (see Section 4.1.1), indicate on the list obtained in Step 4.2.2 that the individual has been accounted for.

4.2.4 After the assembly areas and security personnel have submitted their rosters, compile a list of missing personnel using form EPIP-17.

4.2.5 Attempt to contact missing personnel using the Gai-tronics system.

4.2.6 If unable to contact the missing personnel, obtain from the missing person's supervisor the last known or probable location and/or job assignment. Enter this data on form EPIP-17.

4.2.7 Transmit copies of form EPIP-17 to the Maintenance Supervisor.

4.2.8 Update form EPIP-17 as changes to rosters arrive and as missing personnel are located.

4.2.9 Transmit any changes in form EPIP-17 to the Maintenance Supervisor immediately.

4.3 Designated Supervisor at the Assembly Area (Including Centers for Emergency Operations)

4.3.1 Upon arrival at the assembly area, one supervisor should compile a roster of all personnel in his group who are present and accounted for using form EPIP-18 (attached) or an area roster. At each in-plant center, there should be a roster of persons who are to report to that center. Each person present should be checked off.

4.3.2 When it is felt that the roster is completed as well as possible, notify the Security Shift Lieutenant at the central alarm station (CAS) or at the site boundary control center of all personnel present and accounted for by name.

4.3.3 Update the respective group roster as personnel arrive at or depart from the assembly area.

4.3.4 Report changes of the roster to the Security Shift Lieutenant periodically or as determined necessary by the Security Shift Lieutenant.

4.4 Security Officer/Designee

4.4.1 Compile a roster of all security personnel using form EPIP-18.

4.4.2 Upon completion of the roster, notify the Security Shift Lieutenant. Alert him to any missing personnel.

4.4.3 Maintain the roster current as personnel arrive at or depart from the security building or security posts.

HOSPITAL ASSISTANCE

1.0 INTRODUCTION

As outlined in EPIP 11.1, this procedure specifies plans to be used in the event of serious personal injury or illness at Point Beach. Since the possibility exists that treatment of an injured person may be complicated by radioactive contamination, a fully equipped, isolated, and controlled access treatment room, the Nuclear First Aid Room (NFAR), has been provided at Two Rivers Community Hospital in Two Rivers, Wisconsin. This room is equipped with filtered ventilation, sink, decontamination supplies, protective clothing, signs, and other necessary equipment. The Health Physicist and the Company Medical Director are responsible for the training and retraining of hospital and plant personnel involved in offsite medical plans.

2.0 PROCEDURE FOR HANDLING SERIOUSLY INJURED PERSONS

2.1 General Description (Detailed instructions and responsibilities in subsequent subsections)

2.1.1 Injury or Sickness Resulting in Loss of Consciousness or Mobility in the Clean Area

Control room personnel and the Shift Supervisor will be notified of the apparent nature and extent of the injury and location of the injured person. If an injury occurs in a "clean area"; i..e., an area free of contamination, first aid should be administered by trained plant personnel and the injured person should be transported for medical treatment as necessary.

2.1.2 Injury or Sickness Resulting in Loss of Consciousness or Mobility in the Controlled Area

Although an injury in a contaminated area is not likely to involve gross radioactive contamination, special procedures are to be used for handling an injured and potentially contaminated person. The Shift Supervisor is to direct first aid measures and have the injured person moved to the health physics station where, if call out time allows, health physics professionals will take charge. The

circumstances of the injury and the condition of the injured influence action with respect to decontamination of the injured, removal of protective clothing, and transport to the hospital.

In any case where a victim sustains serious injury, medical aid takes precedence over decontamination procedures.

2.1.3 Subsequent Action

NOTE: IF THE TSC IS ACTIVATED, THE MAINTENANCE SUPERVISOR SHOULD ASSUME THE DUTY SHIFT SUPERVISOR RESPONSIBILITIES FROM BELOW.

a. The Duty Shift Supervisor is to assign an individual to drive the emergency vehicle to transfer the injured person to the hospital. He will inform the driver as to which entrance to use. If the victim is contaminated, the west entrance at tne NFAR will be used. Otherwise the regular emergency entrance will be used. An employee trained in first aid should accompany the injured person in the emergency vehicle.

b. The health physics professionals are to be notified and proceed to the Two Rivers Community Hospital to assist in decontamination procedures as required. They should arrive before the victim, if possible, to facilitate organization of the NFAR.

NOTE: IF THERE IS MORE THAN ONE SERIOUS INJURY COMPLICATED BY CONTAMINATION, THE FIRST VICTIM TO ARRIVE AT THE HOSPITAL SHOULD BE DIRECTED TO THE NFAR. SUBSEQUENT VICTIMS SHOULD BE DELIVERED TO THE NORMAL EMERGENCY ROOM ENTRANCE.

c. The Shift Supervisor is to notify the Two Rivers Community Hospital (see Attachment 11.1-1 to EPIP 11.1) of the nature of the emergency, if contaminated or clean, and expected time of arrival at the hospital.

d. The Shift Supervisor will notify the Site Manager of the injury.

e. The Site Manager or his designated alternate should notify the injured person's family.

f. PBNP 3.5.2, "Injuries, Accident Reporting & Industrial Safety" should be used for documentation and followup of the injury.

2.1.4 Responsibility of Hospital Personnel

Upon being notified that a seriously injured, contaminated person is being transferred, hospital personnel in charge of emergencies will assure that a physician and sufficient personnel are available, evacuate the NFAR of all persons and materials not deemed necessary and assist in moving the injured person upon arrival. Any person or item leaving the treatment room after the arrival of the contaminated victim will be monitored for radioactive contamination. All items leaving the treatment room will be contained in sealed plastic bags if found to be contaminated.

2.1.5 Following Emergency Treatment

After emergency treatment is completed, the patient will be decontaminated with the assistance of Point Beach Health Physics personnel. The NFAR and all supplies and equipment involved will be thoroughly decontaminated by Point Beach personnel. In addition, surveys will be made in areas nearby to ensure that radioactive contamination has not occurred. These areas should include the emergency vehicle, the hallway and the hospital entrance. All liquid and solid wastes accumulated as a result of treatment and decontamination will be transferred to the Point Beach Nuclear Plant for disposal in the plant waste disposal facilities.

2.2 Person Discovering the Injured Person

2.2.1 Immediately notify the Duty Shift Supervisor of the injury and the location of the patient.

2.2.2 If the patient is in a radiation field greater than 25 Rem/hour, or if serious airborne contamination is present, move the patient to an area with lower radiation dose rates, if possible.

NOTE 1: IN ALL CASES ANY ACTIONS TAKEN SHOULD MINIMIZE THE POSSIBILITY OF FURTHER INJURY TO THE PATIENT. IF MOVING THE PATIENT WILL CAUSE EVEN MORE SERIOUS INJURY TO THE PATIENT, THE RADIATION EXPOSURE IS OF SECONDARY IMPORTANCE. GET ADDITIONAL HELP BEFORE MOVING THE PATIENT.

NOTE 2: IF THE PATIENT IS IN AN EXTREMELY HIGH RADIATION FIELD (500 REM/HOUR OR GREATER) MOVE THE PATIENT IMMEDIATELY, REGARDLESS OF HIS INJURIES.

2.2.3 Remain with the patient. If first aid qualified, perform emergency first aid and assist in transferring him to the emergency vehicle as directed by the Duty Shift Supervisor.

2.3 Duty Shift Supervisor

2.3.1 If the injury occurs on day shift, notify the Point Beach Industrial Safety Coordinator or a Chemistry & Health Physics supervisor of the injury and the patient's location.

2.3.2 Assign an emergency vehicle driver from available Operations personnel or from the Chemistry & Health Physics Group and dispatch the driver and vehicle to a suitable exit.

NOTE: IF THE PLANT EMERGENCY VEHICLE IS NOT AVAILABLE, CONTACT THE TWO RIVERS FIRE DEPARTMENT FOR ASSISTANCE. NOTIFY THE PLANT GUARD AND DIRECT THE TWO RIVERS VEHICLE TO THE APPROPRIATE BUILDING EXIT UPON ITS ARRIVAL. SEE ATTACHMENT 11.1-1 FOR TELEPHONE NUMBER. VERIFY APPROPRIATE USE OF PERSONNEL MONITORING DEVICES AS SET FORTH IN SECTION 4.2.

2.3.3 Assure that first aid coverage is provided and instruct the person administering first aid to accompany the patient to the hospital.

2.3.4 Notify the Two Rivers Community Hospital and inform them of:

a. Nature of the injury or illness, if known.

b. Condition of the patient.

c. Whether or not patient is radioactively contaminated.

d. Means of transportation and expected time of arrival.

REFER TO ATTACHMENT 11.1-1 FOR TELEPHONE NUMBER.

2.3.5 If patient is radioactively contaminated, notify Health Physics personnel.

2.3.6 Assure that radiation monitoring instruments are placed in the emergency vehicle if the patient is radioactively contaminated.

NOTE: FIRST CHOICE INSTRUMENTS ARE THE EBERLINE PIC-6A AND THE EBERLINE RM-14 WITH HP210 PANCAKE PROBE.

2.3.7. Notify the Duty & Call Superintendent.

2.4 Emergency Vehicle Driver

2.4.1 Upon being assigned, obtain the necessary radiation monitoring instruments from the Health Physics Station, if required.

2.4.2 Stand by with the vehicle at the designated building exit and assist persons in handling the patient.

2.4.3 After receiving the patient, proceed directly to the Two Rivers Community Hospital.

a. Noncontaminated patients will be taken to the emergency ambulance entrance.

b. Contaminated patients will normally be taken to the entrance on the west end of the hospital.

2.4.4 Enroute to the hospital, call the control room via the vehicle radio to establish contact for relaying information on changes in the patient's condition or other pertinent information.

2.4.5 Upon arrival, assist in transferring the injured person to the treatment room and if the patient is radioactively contaminated, maintain radiation control and monitoring until relieved by Health Physics personnel.

2.5 Health Physics Personnel

2.5.1 Upon notification, proceed to the Two Rivers Community Hospital to assist in patient decontamination procedures. Arrive in advance of the emergency vehicle carrying the victim, if possible.

2.5.2 Upon arrival, identify yourselves to hospital personnel and provide assistance as requested.

2.5.3 Insure that radioactive contamination is not being spread into hallways of the hospital or outside the entrance door. Maintain restricted areas and post as necessary.

2.5.4 Monitor hospital personnel (refer to Section 4.3) and equipment entering and leaving the restricted area.

NOTE: POINT BEACH NUCLEAR PLANT PERSONNEL SHOULD REMEMBER THAT THE ATTENDING PHYSICIAN'S ORDERS MUST BE OBEYED AND ONLY THE PHYSICIAN IS IN DIRECT CHARGE OF THE SITUATION.

2.5.5 Following the emergency treatment, monitor the patient prior to transferring to another area.

2.5.6 Monitor equipment and personnel and decontaminate as required.

2.5.7 Bag all disposable or radioactively contaminated items and place bags in the plant emergency vehicle. Note items of hospital-owned equipment which may require replacement.

2.5.8 Decontaminate the treatment room and adjoining areas as necessary.

2.6 Health Physicist

As soon as possible following the emergency, the Health Physicist will have the treatment room surveyed and insure that decontamination of any hospital facilities used is complete.

2.7 Duty & Call Superintendent

2.7.1 Notify the Manager - Point Beach Nuclear Plant of the emergency.

2.7.2 If the Two Rivers Fire Department emergency vehicle was used to transport a radioactively contaminated patient, notify the Fire Department and request that the vehicle remain at the hospital until plant personnel check for radioactive contamination of the vehicle and/or its equipment.

3.0 PROCEDURE FOR HOSPITAL PERSONNEL

The information obtained from the Point Beach Nuclear Plant Duty Shift Supervisor will determine the actions of hospital personnel.

3.1 Patient Not Contaminated by Radioactive Material

These patients will be handled by standard Two Rivers Community Hospital emergency procedures.

3.2 Patient Contaminated by Radioactive Material

3.2.1 The hospital will assure that a qualified physician and sufficient qualified personnel are available to administer treatment to the injured person.

3.2.2 The NFAR will be evacuated of all personnel not involved in the treatment of the incoming patient.

3.2.3 Those hospital personnel needed for treatment or handling of the injured will don protective clothing.

3.2.4 After the victim is in the NFAR, all persons exiting, and items being removed from, the NFAR will be monitored for contamination.

3.2.5 All contaminated items will be sealed in plastic bags and deposited in the NFAR for further disposition.

3.2.6 After treatment has been completed, the patient will be transferred to another location. Point Beach Health Physics personnel will then decontaminate the NFAR and transfer all contaminated material to Point Beach Nuclear Plant for ultimate disposal.

NOTE: ALL ITEMS SUCH AS PROTECTIVE CLOTHING, ABSORBENT PAPER, ETC., NECESSARY FOR USE BY HOSPITAL PERSONNEL IN TREATMENT OF CONTAMINATED PATIENTS WILL BE SUPPLIED BY WISCONSIN ELECTRIC POWER COMPANY AND WILL BE KEPT IN THE NFAR.

4.0 MONITORING OF MEDICAL PERSONNEL

Assisting personnel will be provided with monitoring devices whenever contamination is involved or whenever such personnel are required on site or within any evacuated area.

4.1 Plant Emergency Vehicle

Use of plant emergency vehicle with plant personnel in attendance requires no additional personnel monitoring devices during the transient from the plant to the hospital.

4.2 Two Rivers Fire Department Emergency Vehicle

Use of the Two Rivers Fire Department emergency vehicle with Fire Department personnel in attendance requires personnel monitoring devices for all non-plant personnel. A self-reading pocket dosimeter and a TLD badge will be issued from the unused TLD supply stored at the south gatehouse. A Visitor TLD Badge Issue Report will be completed as soon as practicable. Upon releasing these personnel, their pocket dosimeters will be read and recorded on the Visitor TLD Badge Issue Report. The TLD badges will be retrieved and processed as soon as possible.

4.3 Hospital Personnel

Self-reading pocket dosimetry devices and TLD badges will be issued to all hospital personnel assisting in the treatment of an injury which has been further complicated with significant radioactive contamination that could pose as a source of exposure to those personnel. These devices are maintained in the Emergency Vehicle and taken directly to the NFAR at the Two Rivers Community Hospital by the Health Physics personnel dispatched to the hospital. A Visitor's TLD Badge Issue Report will be completed as soon as practicable. As soon as hospital personnel have completed their treatment of the injured person, the pocket dosimeter will be read and recorded on the Visitor TLD Badge Issue Report and the TLD will be retrieved and processed as soon as possible.

4.4 Additional Facilities

If there are requirements to transport an injured employee with significant radioactive contamination to additional hospital facilities or to another hospital, all personnel in the proximity of the injured person will be issued self-reading pocket dosimetry devices and TLD badges. These devices will be retrieved and processed as soon as practicable.

4.5 High Whole Body Exposure Incidents

For those incidents where personnel may be transferred to the hospital due to a high whole body exposure (greater than 25 R), personnel monitoring for non-plant personnel is not necessary unless the high whole body exposure is complicated by radioactive contamination. In this case, personnel monitoring devices would be issued as outlined in preceding sections.

5.0 ARRANGEMENTS FOR OFFSITE MEDICAL ASSISTANCE FOR SERIOUS INJURIES OR CONTAMINATED INJURIES

5.1 Two Rivers Community Hospital

Arrangements have been made with the hospital for treatment of Point Beach Nuclear Plant patients. Hospital personnel have been instructed and trained with regard to potentially radioactive patients and contamination. Hospital personnel are periodically retrained by plant personnel and Company medical representatives. Refer to Attachment 11.1-1 for telephone numbers.

The following health physics supplies are available in the nuclear first aid room at the Two Rivers Community Hospital.

Item	NFAR Quantity	Triage Area
Absorbent paper	50 feet	--
Bags, plastic, assorted sizes (need garbage can size)	50	50
Bucket, plastic	1	1
Decontamination supplies:		
Cotton applicators, pkg.	1	1
Decon soap, 1 qt. bottle	1	1
Hand brush	2	2
Potassium permanganate, 7 cap. pkg.	1	1
Sodium bisulfite, 7 cap. pkg.	1	1
Filter paper for smear surveys, pkg. and envelopes	2	2
Gloves:		
Cotton pall bearers, pair	8	8
Rubber, pair	8	8
Half-face respirators with particulate filters	4	4
Marking pens, pkg.	1	1
Mops, sponge, with spare sponge	2	2
Protective clothing:		
Lab coats	6	6
Surgeon's cap	6	6
Plastic shoe covers	25	25
Medical Assistance Plan	1	1
Emergency Call List	1	1
Radiation warning signs and tags, assorted	10	10
Radiation warning tape, roll	1	1
Tape, masking:		
1" roll	2	2
2" roll	2	2
Victoreen Thyac survey meter with end window, GM probe	1	1
D-cell batteries, box	1	1
Masslinn mop	1	1
Barrier tape	1	1
Dosimeters:		
0-500 mRem	10	--
0-2 Rem	5	--
Mini-rad survey instrument	1	1
Scissors	1	1
Tuck tape, rolls	2	2
Miscellaneous forms		
CHP-21, Survey Form (Blank)	1 pad	--
CHP-34, Dosimetry Rezero Sheet	5	5
CHP-39, Personnel Contamination Report	5	5
CHP-82, Quarterly Inventory Hospital	5	5
CHP-83, High-Range Dosimeter Issue Sheet	5	5

5.2 Area Physicians

At least two area physicians have taken radiological health instruction courses under full or partial sponsorship of the Company and are on the Two Rivers Community Hospital staff.

5.3 Two Rivers Fire Department Emergency Vehicle

Arrangements have been made for the City of Two Rivers emergency vehicle to respond in the event of injury to persons at the Energy Information Center or in the event the plant emergency vehicle is already in use. Refer to Attachment 11.1-1 for telephone numbers.

5.4 Backup Hospital - University of Wisconsin Hospital, Madison

Arrangements have been made with the University of Wisconsin Hospital in Madison, Wisconsin, to provide backup services in the event that the services of Two Rivers Community Hospital become temporarily unavailable or that additional services are required. The University Hospital provides its own training and equipment; Point Beach Nuclear Plant has no maintenance obligations in these areas.

POINT BEACH NUCLEAR PLANT

EMERGENCY PLAN AIRBORNE RADIATION SURVEY RECORD
SITE BOUNDARY CONTROL CENTER

DATE _____ LOCATION _____

To Be Completed by Survey Team

TOTAL SAMPLE TIME (MIN.) _____

AVERAGE FLOW RATE _____

FLOW CORRECTION FACTOR _____

Helpful Information

2.832×10^4 cc/cu. ft.

1075 cc in 1 liter gas sample

2.22×10^6 dpm/μCi

$$\mu Ci/cc = \frac{\text{Net cpm}}{(2.22 \times 10^6 \text{ dpm}/\mu Ci)(Eff)(Vol/cc)}$$

SAMPLE DATA

SAMPLE START		SAMPLE STOP		*SAMPLE NUMBER	SAMPLE TYPE	SAMPLER NUMBER	*SAMPLE VOLUME (cc)	BY (INITIALS)
DATE	TIME	DATE	TIME					

REMARKS: _____ ☐ Plotted

*To Be Completed By Counting Team

GROSS BETA-GAMMA COUNTING DATA

COUNTING INSTRUMENT USED: _____

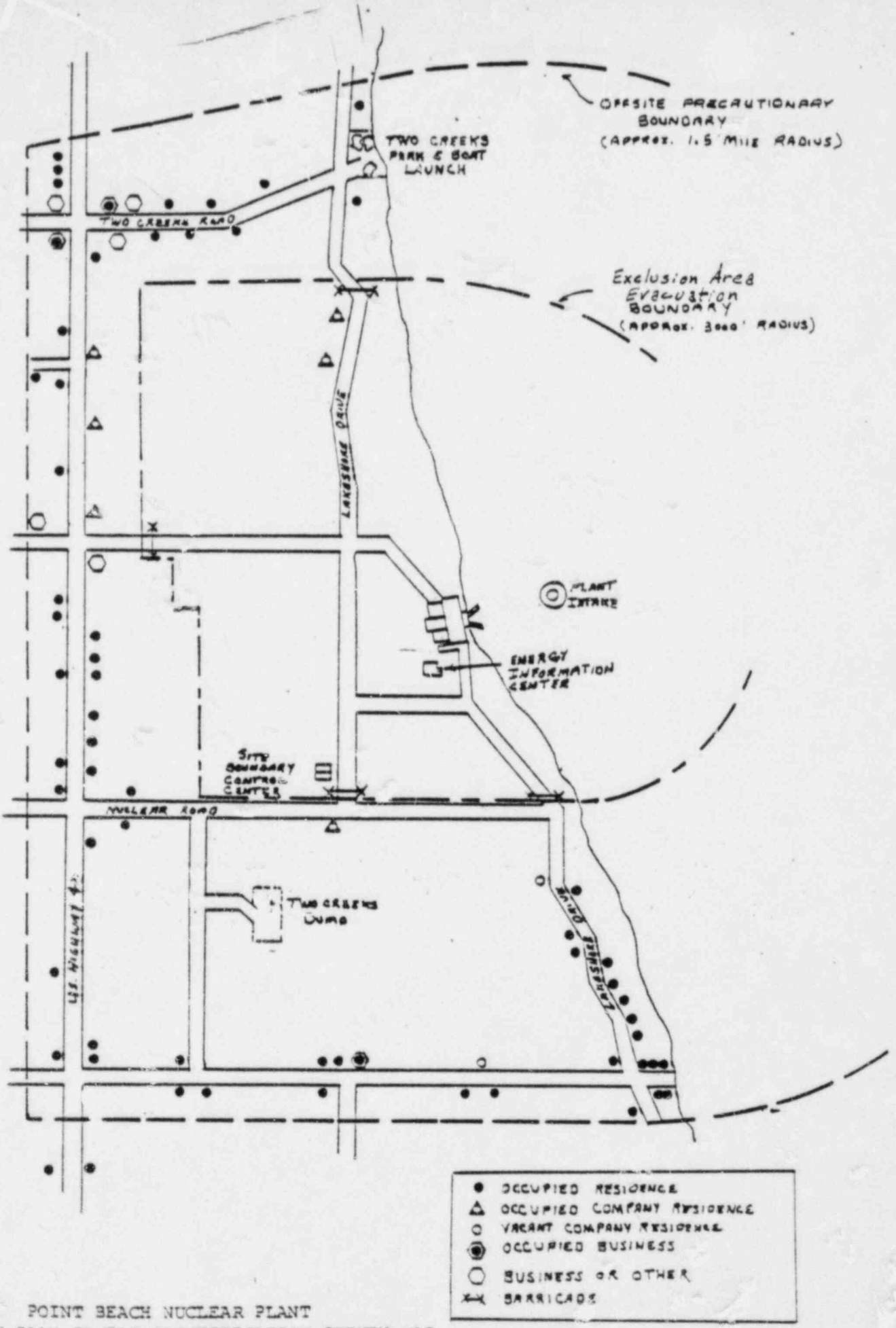
DATE	TIME	SAMPLE NUMBER	GROSS (cpm)	BKGD. (cpm)	NET (cpm)	EFF. (%)	SAMPLE ACTIVITY (μCi/cc)	BY (INITIALS)

☐ ISOTOPIC ANALYSIS ☐ IOCAN ☐ NGSD ☐ MPCAIR

To Be Completed by Team Involved with Analysis (MCA)

DATE	TIME	SAMPLE NUMBER	ISOTOPE	ACTIVITY (μCi/cc)	% TOTAL ACTIVITY	BY (INIT.)	VERIFIED BY (INITIALS)

REVIEWED BY _____ DATE & TIME _____



POINT BEACH NUCLEAR PLANT
EMERGENCY PLAN SAMPLE IDENTIFICATION SURVEY MAP

EPIP-01

POINT BEACH NUCLEAR PLANT

EMERGENCY PLAN SURVEY RECORD
SITE BOUNDARY CONTROL CENTER

Type Instrument _____ Date _____

Instrument Serial No. _____ Survey No. _____

Indicate survey location(s) on the attached map.

Plume

(A) No.	(B) Remarks	(C) Time	(D) Gamma mRem/hr.	(E) Beta-Gamma mRem/hr.	(F) Beta Dose Rate (E-D)	(G) Beta-Skin Dose (FX1.5)	(H)
1							
2							
3							
4							
5							

Ground Survey Results

(A) No.	(B) Remarks	(C) Time	(D) Gamma mRem/hr.	(E) Beta-Gamma mRem/hr.	(F) Beta Dose Rate (E-D)	(G) $\frac{\mu Ci}{m^2}$	
A							
B							
C							
D							
E							

Smears or Ground Samples

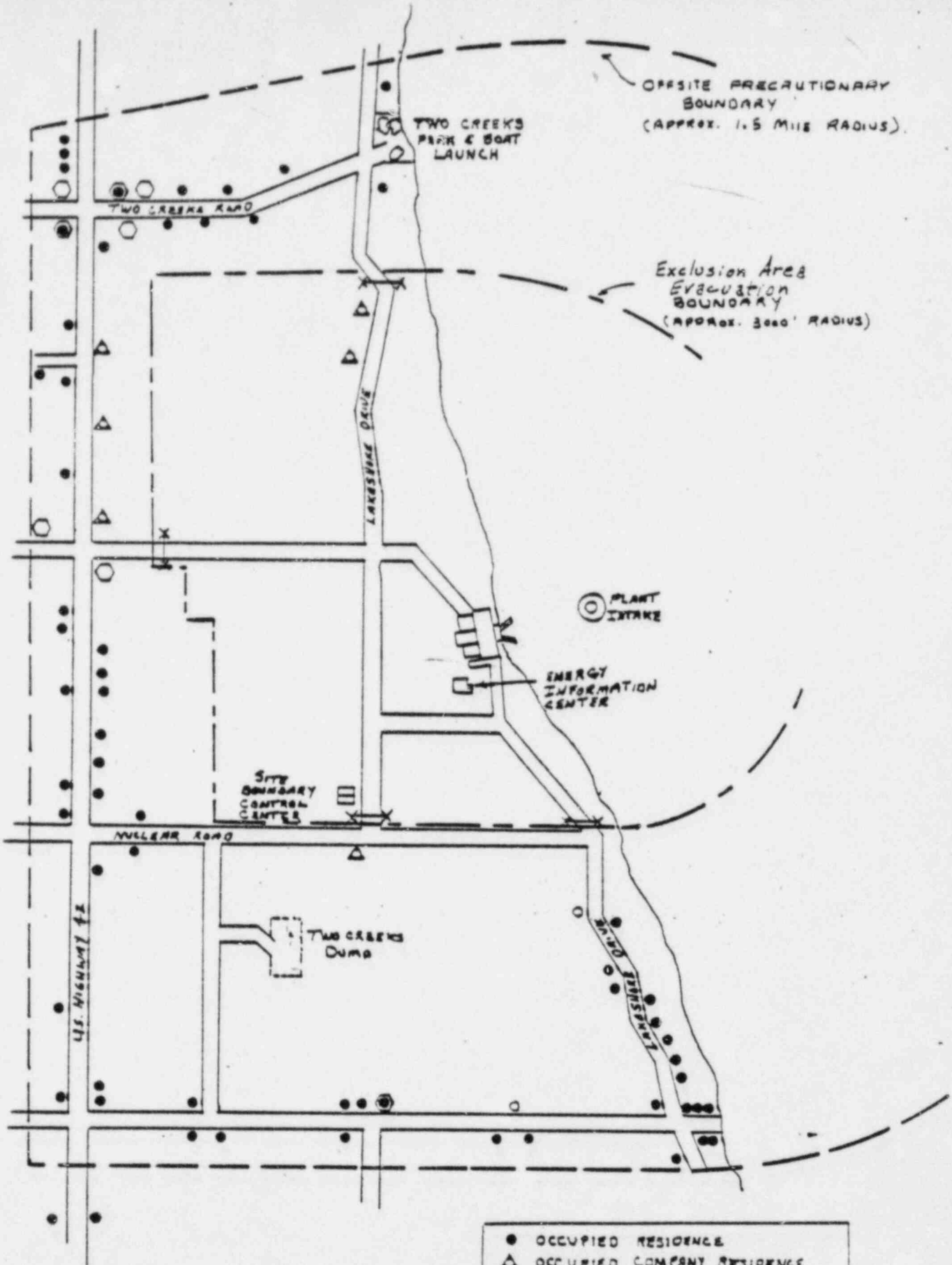
(A) No.	(B) Remarks	(C) MDA (cpm)	(D) Gross cpm	(E) Bkgd. cpm	(F) Net cpm	(G) Inst. Eff. %	(H) dpm 100 cm^2	(I) dpm m^2 (H x 100)
1								
2								
3								
4								
5								

Survey By _____

Reviewed By _____

_____
Health Physics Director

EPIP-02
(01-83)



POINT BEACH NUCLEAR PLANT
EMERGENCY PLAN SAMPLE IDENTIFICATION SURVEY MAP
EPIP-02

POINT BEACH NUCLEAR PLANT

STATUS REPORT ON PLANT SYSTEMS AND CONTROLS FOR AFFECTED UNIT

1. Basic Accident Information

   a. Unit No.: _____

   b. Status Report Date/Time: _____ / _____
   (Date) (Time-24 Hours)

   c. Emergency Classification Declared: [Check (√) one]

   Unusual Event _____ Site Emergency _____
   Alert _____ General Emergency _____

   d. Time of Reactor Shutdown (if applicable): _____
   (Time-24 Hours)

   e. Time of Radiological Release to Containment (if applicable):

   _____
   (Time-24 Hours)

   f. Time of Radiological Release from Plant (if applicable):

   _____
   (Time-24 Hours)

2. Status of Reactivity Control

   Parameters

   a. Control Rod Position

   (All 33 rod bottom bistables lit) Yes _____ No _____

   b. Neutron Flux Decaying Yes _____ No _____

3. Status of Core Cooling

   Parameters

   a. Pressurizer Heaters Available Yes _____ No _____

   b. Th Loop A _____ °F Loop B _____ °F

   c. Tc Loop A _____ °F Loop B _____ °F

   d. Flow Loop A _____ % Loop B _____ %

Status Report Time: _____

3. Status of Core Cooling (continued)

   e. Incore Thermocouples: Average Temperature _____ °F

   f. Degree of Subcooling Margin: _____ °F

4. Status of Reactor Coolant System Integrity

   Parameters

   a. Pressurizer or Reactor System Pressure _____ psig

   b. Pressurizer Level _____ %

   c. Primary System Relief Valves Closed Yes _____ No _____

   d. Letdown Flow _____ gpm

   e. Charging Pump Flow _____ gpm

5. Status of Secondary Systems

   Parameters

   a. Steam Generator Pressure

      "A" Generator _____ psig "B" Generator _____ psig

   b. Steam Generator Level

      "A" Generator _____ %, increasing or steady Yes _____ No _____

      "B" Generator _____ %, increasing or steady Yes _____ No _____

   c. Auxiliary Feedwater Flow _____ gpm

6. Status of Containment Integrity

   Parameters

   a. Containment Pressure _____ psig

   b. Containment Isolation Valve (Note any not closed)

      _____

      _____

      _____

      _____

   c. Containment Spray Pumps Running Yes _____ No _____

Status Report Time: _____

6. Status of Containment Integrity (Continued)

   d. Containment Recirculation Coolers Running 1 2 3 4
   (Circle one)

   e. NaOH Addition Yes _____ No _____ Time _____ Level _____

7. Status of Auxiliary Systems

   Parameters

   a. High Pressure Safety Injection Flow

      Train A _____ gpm Train B _____ gpm

   b. Refueling Water Storage Tank Level _____%

   c. Accumulator A
      Level _____ %
      Pressure _____ psig
      Isolation Valve Open Yes _____ No _____

      Accumulator B
      Level _____ %
      Pressure _____ psig
      Isolation Valve Open Yes _____ No _____

   d. RHR Flow FI-928 _____ FI-626 _____

   e. Component Cooling Water

      Temperature _____°F Flow _____ gpm

   f. Service Water

      Number of pumps running _____

      Temperature _____°F

8. Status of Meteorology

   Parameters

   a. Wind Direction _____

   b. Wind Speed _____ mph

   c. Ambient Temperature _____°F

   d. Stability Class $\sigma\theta$ _____ degrees

Status Report Time: _____

9. Status of Power Supplies

Parameters

a. Offsite Power Available		Yes _____	No _____
b. Diesel Generator Running	3DG01	Yes _____	No _____
	4DG02	Yes _____	No _____
Loaded	3DG01	Yes _____	No _____
	4DG02	Yes _____	No _____
c. Onsite Power Available		Yes _____	No _____

Other Equipment Remarks:

Completed By _____ Time _____ Date _____

PLANT AND COMPANY EMERGENCY CALL LIST

PBNP PLANT PERSONNEL:

1. Duty & Call Superintendents

Name	Plant Ext.	Home Phone	Time Notified
J. J. Zach			_____
T. J. Koehler			_____
R. E. Link			_____
J. C. Reisenbuechler			_____
G. J. Maxfield			_____
Duty & Call Beeper No.			_____

2. Shift Supervisors

Name	Plant Ext.	Home Phone	Time Notified
L. J. Kamyszek			_____
R. D. Mitchell			_____
I. L. Bleeker			_____
C. M. Gray			_____
E. Ziller			_____
R. J. Mulheron			_____
T. W. Garot			_____
K. J. Draska			_____

3. Chemistry

Name	Plant Ext.	Home Phone	Time Notified
P. J. Skramstad			
T. L. Slack			
R. A. Neustadter			
T. L. Fredrichs			

4. Health Physics

Name	Plant Ext.	Home Phone	Time Notified
P. Skramstad			
R. S. Bredvad			
L. E. Epstein			
C. D. Bolle			
M. D. Moseman			
E. J. Manos			

5. Instrument & Control

Name	Plant Ext.	Home Phone	Time Notified
A. J. Pohl			
G. L. Rau			
E. A. LeClair			

6. Maintenance

Name	Plant Ext.	Home Phone	Time Notified
W. J. Herrman			
D. A. Magyar			
M. E. Crouch			
R. O. Gerroll			
J. O. Schoenberger			
G. Bernhoft			
T. R. Branam			
E. H. Wellenstein			

7. Reactor Engineering

R. L. Harris			
N. L. Pitterle			

8. Plant Administration and Security

Name	Plant Ext.	Home Phone	Time Notified
J. J. Zach			
T. J. Koehler			
R. Krukowski			
J. D. Mielke			
F. A. Flentje			
J. E. Knorr			

9. Fire Brigade Members

Note: Refer to PBNP Fire Protection Manual Call List, Section FEP 2.0.

WEPCO COMPANY PERSONNEL:

1. Company Administraton and Departments

Name	Company Ext.	Home Phone	Time Notified
C. W. Fay, Duty Emergency Support Manager			_____
			_____
Wisconsin Electric Power Company			_____
Medical Department			_____
Nuclear Engineering Section Office			_____
Communications Department			_____
WE Accident Prevention			_____
			_____

2. Nuclear Engineering Section Personnel

Name	Company Ext.	Home Phone	Time Notified
D. K. Porter			_____
R. A. Newton			_____
G. D. Frieling			_____
E. J. Lipke			_____
S. A. Schellin			_____
C. W. Krause			_____
J. E. Knorr			_____

3. Insurance Personnel

Name	Company Ext.	Home Phone	Time Notified
W. J. Dundas, Supt. Insurance & Claims Div.			_____
W. E. Staum, Alternate			_____
J. G. Remmel, Alternate			_____

OFFSITE AGENCY EMERGENCY CALL LIST

FEDERAL AGENCIES:

1. United States Nuclear Regulatory Commission

Name	Frequency	Telephone Number	Person Notified	Time Notified	Initials
NRC Operations Center	All hours	Red Phone			
	or				
NRC Office of Inspection and Enforcement, Region III	All hours (Ask for Duty Officer)				

NRC Resident Inspectors:	Plant Ext.	Home		
a. R. L. Hague				
b. B. E. Fitzpatrick				

2. United States Department of Energy

Name	Frequency	Telephone Number	Person Notified	Time Notified	Initials
Chicago Operations Center, Region V (Radiological Assistance Team)	Weekdays (8AM-5PM)				
	All other hours				

3. United States Coast Guard

Name	Frequency	Telephone Number	Person Notified	Time Notified	Initials
MSO, Milwaukee					
USCG, Sturgeon Bay	All hours				
USCG, Two Rivers	All hours				

4. United States National Weather Service

Name	Frequency	Telephone Number	Person Notified	Time Notified	Initials
NWS, Green Bay	All hours	NAWAS			

STATE AGENCIES:

1. State of Wisconsin

Name	Frequency	Telephone Number	Person Notified	Time Notified	Initials
Wisconsin Dept. of Health and Social Services, Section of Radiation Protection	Weekdays (9AM-5PM)				
Lawrence J. McDonnell, Chief Section of Radiation Protection		Home phone			
Wisconsin Division of Emergency Government	All hours				
Wisconsin State Patrol	All hours				

COUNTY AGENCIES:

1. Manitowoc County

Name	Frequency	Telephone Number	Person Notified	Time Notified	Initials
Manitowoc County Sheriff, County Traffic	All hours				

2. Kewaunee County

Name	Frequency	Telephone Number	Person Notified	Time Notified	Initials
Kewaunee County Dispatcher	All Hours				

PRIVATE AGENCIES:

Name	Frequency	Telephone Number	Person Notified	Time Notified	Initials
Kewaunee Nuclear Power Plant	All hours				

PRIVATE AGENCIES: (Cont'd)

Name	Frequency	Telephone Number	Person Notified	Time Notified	Initials
Institute of Nuclear Power Operations	All hours				
American Nuclear Insurers	All hours				
Westinghouse Electric Corp. Operating Plant					
Regional Mgr.	Office				
(B. Johnson)	Home				
1st Alternate	Home				
(C. Sprumont)	Office				
2nd Alternate	Home				
(C. Rowland)	Office				
Stone & Webster Engineering Corp.	All hours				
Bechtel Power Corporation	All hours				
University of Wisconsin - Milwaukee Seismic Center (D. Willis)	Office				

FIRE AND MEDICAL AGENCIES

1. Fire Emergency

Name	Frequency	Telephone Number	Person Notified	Time Notified	Initials
Two Creeks Fire Department	All hours	(Emergency line)			

2. Medical Assistance

Name	Frequency	Telephone Number	Person Notified	Time Notified	Initials
Doctors Clinic, Ltd. S. Lawrence Kaner, M.D. Stephen L. Weld, M.D.					
University Hospital, Madison					
Emergency Room	All hours				
Frank C. Larson, M.D.					
Robert F. Schilling, M.D.					
Robert R. Radtke, Ph.D. (Health Physicist)					
Two Rivers Emergency Vehicle	All hours				
Community Hospital, Two Rivers	All hours				

POINT BEACH NUCLEAR PLANT

SITE BOUNDARY CONTROL CENTER
EMERGENCY PLAN INVENTORY CHECKLIST

Item No.	Item	Required	On Hand
	Sampling Equipment and Supplies		
1.	AC generator (5,000 watt)	1	_____
3.	Electric high volume air sampler	1	_____
4.	Poly gas sample bottles	12	_____
5.	Charcoal cartridges for air sampler, high volume	48	_____
6.	Charcoal cartridges for air sampler, low volume	50	_____
7.	Silver zeolite cartridges for air sampler, low volume	5	_____
8.	Filters for air samplers (pkg. of 100)	2	_____
9.	Gasoline for AC generator (gallons)	2	_____
10.	Sample tags	50	_____
11.	Plastic bags	50	_____
12.	100' extension cord	2	_____
13.	Planchets	20	_____
	Respiratory Protection Equipment		
14.	Full-face respirators	2	_____
15.	Half-face respirators	2	_____
16.	Full-face filter cartridge	12	_____
17.	Half-face filter cartridge	10	_____
	Fire Protection Equipment		
18.	Fire extinguisher, dry chemical	1	_____
	Radiation Survey and Monitoring Instrument		
20.	Radector III (.1 mR/hr - 1,000 R/hr)	1	_____
21.	Victoreen Model 490 Thyac III	1	_____
22.	PIC-6A survey instrument (1 mR/hr - 1,000 R/hr)	2	_____
23.	RM3C personnel survey frisker	1	_____
24.	Johnson Associates, GSM-5, 0-50k cpm, 0-200 mR/hr	1	_____
25.	MSC-1 sampler holder for GSM-5	1	_____
26.	Check sources; 2 - Cs-137 and 1 - Sr-90	3	_____
27.	Filters for smears (pkg. of 100)	2	_____
28.	Nuclear Chicago counter scaler	1	_____
29.	Coin envelopes (box)	1/2	_____
30.	HP-210 probe	2	_____
31.	SH4 probe holder	1	_____
32.	Earphones for Thyac III survey instrument	3	_____
33.	Side window probe	2	_____
34.	Cord, BNC-BNC connector	2	_____
35.	Cord, amphenol - BNC connector	2	_____

		Required	On Hand
	Personnel Monitoring Equipment		
36.	Personnel Thermoluminescent Dosimeters (TLD)	100	
37.	Radiological dosimeters, 0-5 R	12	
38.	Radiological dosimeter charger	2	
	First Aid and Decontamination Supplies		
39.	First aid kit	1	
40.	Burn kit	1	
41.	Emergency drinking water tablets (bottles; 50 tables per bottle)	5	
42.	Water (gallons)	20	
43.	Decon soap, powder (5 lb.)	1	
44.	Decon soap, liquid (qt.)	1	
45.	Hand brush	4	
46.	Cotton applicators (box)	1	
47.	Potassium permanganate (4 oz.)	1	
48.	Sodium bisulfate (1 lb.)	1	
49.	Kim towels (box)	1	
50.	Masselin (pkg.)	1	
51.	"409" cleaner (btl.)	2	
52.	"Spic'n Span" (box)	2	
53.	Masselin mop	1	
54.	Regular sponge map	2	
55.	Rag mop	1	
56.	Wringer	1	
57.	Large mop bucket	1	
58.	Kimwipes (box)	1	
59.	Bucket, plastic	2	
60.	Cotton swabs (packets)	5	
61.	Gauze sponges, 2" x 2" (100 per pkg.)	1	
62.	Nail brushes	4	
	Radiation Hazard Signs and Supplies		
63.	Radiation warning tape (roll)	1	
64.	Radiation placards	10	
65.	Radioactive material and radiation hazard signs	10	
66.	Radiation contamination hazard tags	10	
67.	Contamination, high radiation, radioactive material, and radiation area inserts (ea.)	10	
68.	Yellow/magenta ribbon (rolls)	8	
69.	Yellow/magenta rope (roll)	1	

		Required	On Hand
	Communication Equipment and Supplies		
70.	Portable 2-way radio KRQ-717	1	
71.	Telephone, plan PBX-extension with outside line capability	1	
72.	WE telephone book	1	
73.	Two Rivers/Manitowoc telephone book	1	
	Traffic Signs and Equipment		
74.	Traffic cones for barricades	20	
75.	Traffic lights for barricades	8	
76.	Chains and padlocks for barricades	4	
77.	Traffic flashlight	4	
78.	"Closed Area" placards	6	
79.	Traffic warning light batteries (spare)		
	Clothing and Toiletry Supplies		
80.	Coveralls	25	
81.	Rainwear	6	
82.	Rubber boots	10	
83.	Shoe covers, plastic	25	
84.	Overshoes, winter	6	
85.	Gloves, rubber disposable	6	
86.	Gloves, cotton disposable	6	
87.	Mittens, winter	6	
88.	Towels	12	
89.	Washcloths	12	
	Stationery and Miscellaneous Supplies		
90.	Desk table and chair	1	
91.	Writing paper (pad)	1	
92.	Pens and pencils	Assortment	
93.	Tape, masking (rolls)	2	
94.	Tuck tape (rolls)	10	
95.	Logbook	1	
96.	Absorbent paper (roll)	1	
97.	Paper cups (bag)	1	
98.	Plastic bags	50	
99.	Scissors	1	
100.	Pocketknife	1	
101.	Screwdrivers (set)	1	
102.	Plastic funnel	4	
103.	Flashlight	1	
104.	Batteries (for flashlight and survey instruments)	50	
105.	Flashlight bulbs	6	

		Required	On Hand
Stationery and Miscellaneous Supplies, continued ...			
106.	Bulbs, incandescent	8	
107.	Electric clock	1	
108.	Electric heater	5	
109.	Wet/dry vacuum cleaner	1	
110.	Metal drum (55-gallon)	1	
111.	Dzl-lene (quart), gasonline stabilizer	1	
112.	Lead bricks	12	
113.	Safety solvent (low)	1	
114.	Metal funnels	2	
115.	Pencil sharpener	1	
116.	Chalk	1	
117.	Bulletin Board	1	
118.	Chalkboard	1	
119.	Table (reg.)	1	
120.	Picnic tables	2	
121.	Calculator	1	
	Emergency Plan Documents		
122.	PBNP Emergency Plan	1	
122a.	Emergency Plan Implementing Procedures	1	
123.	Health Physics Administrative Control Policies & Procedures Manual	1	
124.	Dose Isopleth/Map Package	1	
125.	Personnel Roster	10	
126.	Potassium Iodide Approval, Use List	1	
127.	DOE, Region V, Radiological Assistance Handbook	1	
128.	State of Wis. Peacetime Radiological Response Plan	1	
	EPIP Forms		
129.	EPIP-01, Emergency Plan Airborne Radiation Survey	5	
130.	EPIP-02, Emergency Plan Survey Record	5	
131.	EPIP-03, Dose Factor Calculation Sheet	5	
132.	EPIP-04, Status Report on Plant Systems and Controls	5	
133.	EPIP-05, Worksheet for Status Report on RMS for Unit	5	
134.	EPIP-06, Worksheet for Status Report on RMS for Plant	5	
135.	EPIP-07, X/Q Determination	5	
136.	EPIP-08, Estimated Whole Body and Thyroid Projected	5	
137.	EPIP-09, Estimated Whole Body Calculation Worksheet	5	
138.	EPIP-10, Estimated Ground Deposition Calculation	5	
139.	EPIP-17, List of Missing Personnel	5	
141.	Xe-133 Equivalent Release Rate, Worksheet No. 1	5	
141a.	EPIP-36, Master Dose Logsheet	5	

		Required	On Hand
	EPIP Procedures		
142.	EPIP 1.4, Radiological Dose Evaluation	5	
143.	EPIP 1.5, Protective Action Evaluation	5	
144.	EPIP 7.1.1, Chemistry & Health Physics Personnel Notification and Initial Response when Chemistry & Health Physics Personnel are On-Site	5	
145.	EPIP 7.2.1, Activation of Health Physics Facilities at Site Boundary Control Center	5	
146.	EPIP 7.2.2, Activation of Health Physics Facilities at Operations Support Center	5	
147.	EPIP 7.2.3, Activation of Health Physics Facilities at Technical Support Center	5	
	CHP Forms		
148.	CHP-02, Iodine Airborne Survey (pad of 50)	1	
149.	CHP-21, Miscellaneous Survey (pad of 50)	1	
150.	CHP-31, Radiation Work Permit (pad of 50)	1	
151.	CHP-34, Dosimeter Rezero (pad of 50)	1	
152.	CHP-37, Irregular or Offscale Dosimeter Report (pad of 50)	1	
153.	CHP-22, Air Particulate Sample (pad of 50)	1	
154.	CHP-25, Counting Log Sheet (pad of 50)	1	
155.	CHP-33b, Visitors Monitored per 10 CFR 20 (pad of 50)	1	
156.	CHP-33c, Visitor Personnel Monitoring Record (pad of 50)	1	
157.	CHP-35, Dosimeter Summary Sheet (pad of 50)	1	
158.	CHP-38, Lost or Damaged TLD Report (pad of 50)	1	
159.	CHP-39, Personnel Contamination Report (pad of 50)	1	
160.	CHP-40, Visitor TLD Badge Issue Report (pad of 50)	1	
161.	CHP-44, Timekeeping Log - High Radiation Work Location (pad of 50)	1	
162.	CHP-56, Personal Bioassay Evaluation (pad of 50)	1	
163.	CHP-106, Occupational External Radiation Exposure History (pad of 50)	1	
	Emergency Plan Sampling Kits		
164.	Emergency Plan Sampling Kits - Each kit contains the following:	2	
	1. Battery powered air sampler	1	
	2. Scott cartridge holder	1	
	3. Silver Zeolite cartridge holder	1	
	4. Stop watch with batteries	1	
	5. Air Particulate filters (env.)	1	
	6. Silver Zeolite cartridge	5	
	7. Scott charcoal cartridge	5	
	8. PIC-6A survey meter	1	
	9. Water filled gas sample bottle (1 liter)	2	

		Required	On Hand
10.	Liquid sample cubitainers (1 liter)	2	_____
11.	Scissors	1 pair	_____
12.	Plastic suit	2 sets	_____
13.	Gloves (surgeons)	6 pair	_____
14.	Dosimeters (0 - 5,000 mR)	2	_____
15.	Dosimeter charger	1	_____
16.	Plastic Bags		
	12 x 18 inch size	6	_____
	5 x 8 inch size	6	_____
	3 x 5 inch size	12	_____
17.	Flashlight with spare bulb and batteries	1	_____
18.	Smears (100 each/box)	2	_____
19.	Tuck Tape (roll)	1	_____
20.	Sharpie, Flair pen, grease pencil and pencil	4	_____
21.	Sample ID tags (pad)	1	_____
22.	Sampling Procedures		
	EPIP 7.3.1 Airborne Sampling and Direct Dose Rate Survey Guidelines	5 ea	_____
	EPIP 7.3.1 Atmospheric Radioactive Iodine Sample Attachment Collection and Counting	5 ea	_____
23.	Sampling Forms		
	EPIP-01 Airborne Radiation Survey Record	5 ea	_____
	EPIP-02 Emergency Plan Survey Record	5 ea	_____
	Sample Identification Survey Map	5 ea	_____
	2 and 5 Mile Sample Identification Survey Map	5 ea	_____
24.	CHP-34 Rezero Sheet	5 ea	_____

By _____ Date _____

Reviewed By _____ Date _____
(Health Physics Supervisor)

POINT BEACH NUCLEAR PLANT

MONTHLY HEALTH PHYSICS INSTRUMENT AND AIR SAMPLER FUNCTIONAL TEST CHECKLIST

DATE _____

Reference: EPIP 7.4.1 - Routine Check, Maintenance, Calibration and Inventory Schedule of Health Physics Emergency Plan Equipment

EPIP 7.4.2 - Emergency Plan Equipment Routine Checks, Maintenance and Calibration Instructions

SITE BOUNDARY CONTROL CENTER

INSTRUMENTATION

Item No.	Type of Equipment	Serial Number	Check Source Used	Source Check Criteria		Results	
1.	Thyac III	_____	Installed	_____	cpm	_____	cpm
2.	GSM-5	_____	S-23	_____	cpm	_____	cpm
3.	RM-3C	_____	S-23	_____	cpm	_____	cpm
4.	PIC-6A	_____	Cs-11	_____	mR/hr	_____	mR/hr
5.	PIC-6A	_____	Cs-11	_____	mR/hr	_____	mR/hr
6.	PIC-6A	_____	Cs-11	_____	mR/hr	_____	mR/hr
7.	PIC-6A	_____	Cs-11	_____	mR/hr	_____	mR/hr
8.	Radector III	_____	Cs-11	_____	mR/hr	_____	mR/hr
9.	HPI-1010	_____	Cs-11	_____	mR/hr	_____	mR/hr
10.	Nuclear Chicago	_____	S-23	_____	cpm	_____	cpm

AIR SAMPLERS

Item No.	Type	Satisfactory Functional Test
1.	High Volume	_____
2.	Battery (12 V DC)	_____

NOTE: SOURCE CHECK CRITERIA TO BE ENTERED FROM CURRENT CALIBRATION STICKER ON EACH UNIT. RESULTS MUST BE WITHIN ±20% OF THIS VALUE.

OPERATIONS SUPPORT CENTER

INSTRUMENTATION

Item No.	Type of Equipment	Serial Number	Check Source	Source Check Criteria		Results	
1.	Rad Owl II	_____	Cs-6	_____	mR/hr	_____	mR/hr
2.	Thyac III	_____	Int.	_____	cpm	_____	cpm
3.	Thyac III	_____	Int.	_____	cpm	_____	cpm
4.	Vamp Area Monitor	_____	Cs-6	_____	mR/hr	_____	mR/hr

AIR SAMPLERS

Item No.	Description	Satisfactory Functional Test
1.	Low Volume (115 V AC)	_____
2.	High Volume (115 V AC)	_____
3.	High Volume (115 V AC)	_____
4.	AMS-2 (cart-mounted)	_____

	Check Source Criteria		Check Source Criteria	
a. AMS-2	_____	cpm	_____	cpm
b. RM-14	_____	cpm	_____	cpm

Use check source CS-6.

EMERGENCY SUPPORT CENTER

INSTRUMENTATION

Item No.	Type of Equipment	Serial Number	Check Source	Check Source Criteria	Check Source Results
1.	Rad Owl II	_____	Cs-5	_____ mR/hr	_____ mR/hr
2.	Vamp Area Monitor	_____	Cs-5	_____ mR/hr	_____ mR/hr

AIR SAMPLERS

Item No.	Description	Satisfactory Functional Test
1.	Low Volume (115 V AC)	_____

SOUTH GATE

INSTRUMENTATION

Item No.	Type of Equipment	Serial Number	Check Source Used	Source Check Criteria	Results
1.	VAMP Monitor	_____	Cs-6	_____ mR/hr	_____ mR/hr

AIR SAMPLERS

Item No.	Type of Equipment	Satisfactory Functional Test
1.	Low Volume	_____

CONTROL ROOM

INSTRUMENTATION

Item No.	Type of Equipment	Serial Number	Check Source Used	Source Check Criteria	Results
1.	Radector III	_____	Cs-3	_____ mR/hr	_____ mR/hr

FIRST AID ROOM

INSTRUMENTATION

Item No.	Type of Equipment	Serial Number	Check Source Used	Source Check Criteria	Results
1.	Thyac III	_____	Internal	_____ cpm	_____ cpm

EMERGENCY VEHICLE

INSTRUMENTATION

Item No.	Equipment	Number	Used	Criteria	Results
1.	Thyac III	_____	Internal	_____ cpm	_____ cpm
2.	Thyac III	_____	Internal	_____ cpm	_____ cpm
3.	Mini-Rad	_____	Cs-3	_____ mR/hr	_____ mR/hr
4.	Mini-Rad	_____	Cs-3	_____ mR/hr	_____ mR/hr

Checked By _____ Date _____

Reviewed By _____ Date _____
Health Physics Supervisor

POINT BEACH NUCLEAR PLANT

QUARTERLY EMERGENCY PLAN CHECKLIST

DATE _____

Reference: EPIP 7.4.1 - Routine Check, Maintenance, Calibration and Inventory of Schedule of Health Physics Emergency Plan Equipment

EPIP 7.4.2 - Emergency Plan Equipment Routine Checks, Maintenance and Calibration Instructions

SITE BOUNDARY CONTROL CENTER

RESPIRATORY EQUIPMENT

Item No.	Type	Serial No.	Inspection
1.	Full-face	_____	_____
2.	Full-face	_____	_____
3.	Full-face	_____	_____
4.	Full-face	_____	_____

COMMUNICATIONS

Portable Radio KRQ-717 — Functional check with control room _____

WARNING LIGHTS, TRAFFIC

Traffic Warning Lights — All traffic warning lights functioning _____

AC GENERATOR (Gasoline Powered)

Functional Test _____

DRY CELL BATTERY REPLACEMENT

NOTE: If alkaline batteries are used, battery changeout is required annually rather than quarterly. If carbon or mercury batteries are used, a quarterly 5-minute test shall be completed to verify operability.

Item No.	Type of Equipment	Battery Type	Quantity	Changed/ Tested	Date Due
1.	Traffic Warning Light				
2.	Survey/Frisker Instruments				
3.	Flashlights				
4.	Portable Radio				
5.	Stop Watch				
6.	Dosimeter Charger				

CONTROL ROOM

RESPIRATORY EQUIPMENT

Item No.	Type of Equipment	Serial Number	Inspection	Functional Test
1.	Bio-Pak			
2.	Bio-Pak			
3.	MSA-SCBA			
4.	MSA-SCBA			
5.	Supplied Air Mask			
6.	Supplied Air Mask			
7.	Supplied Air Mask			
8.	Supplied Air Mask			
9.	Supplied Air Mask			
10.	Supplied Air Mask			
11.	Supplied Air Mask Hose			
12.	Supplied Air Mask Hose			
13.	Supplied Air Mask Hose			
14.	Supplied Air Mask Hose			
15.	Supplied Air Mask Hose			
16.	Supplied Air Mask Hose			
17.	Supplied Air Valve			
18.	Supplied Air Valve			
19.	Supplied Air Valve			
20.	Supplied Air Valve			
21.	Supplied Air Valve			
22.	Supplied Air Valve			

Control Room Respiratory Equipment, continued ...

Item No.	Type of Equipment	Serial Number	Inspection
23.	Supplied Air Hose	_____	_____
24.	Supplied Air Hose	_____	_____
25.	Supplied Air Hose	_____	_____
26.	Supplied Air Hose	_____	_____
27.	Supplied Air Hose	_____	_____
28.	Supplied Air Hose	_____	_____
29.	Spare Mask	_____	_____
30.	Spare Mask	_____	_____
31.	Spare Mask	_____	_____
32.	Spare Mask	_____	_____
33.	Bio-Pak	_____	_____
34.	Bio-Pak	_____	_____
35.	Bio-Pak	_____	_____
36.	Bio-Pak	_____	_____

TECHNICAL SUPPORT CENTER/OPERATIONS SUPPORT CENTER

RESPIRATORY EQUIPMENT

Item No.	Type of Equipment	Serial Number	Inspection	Serial Number	Inspection
1.	Clear-Vue	1. _____	_____	4. _____	_____
		2. _____	_____	5. _____	_____
		3. _____	_____	6. _____	_____
2.	Ultra-Vue	1. _____	_____	4. _____	_____
		2. _____	_____	5. _____	_____
		3. _____	_____	6. _____	_____
3.	Bio-Pak	1. _____	_____	6. _____	_____
		2. _____	_____	7. _____	_____
		3. _____	_____	8. _____	_____
		4. _____	_____	9. _____	_____
		5. _____	_____	10. _____	_____

COMMUNICATIONS

Portable Radio KRQ-717 (1 unit)	Functional Test with Control Room	_____

GATEHOUSE

COMMUNICATIONS

Portable Radio KRQ-717 (1 unit)	Functional Test with Control Room	_____

EMERGENCY SUPPORT CENTER

RESPIRATORY EQUIPMENT

Item No.	Type of Equipment		Serial Number	Inspection		Serial Number	Inspection
1.	Clear-Vue	1.			4.		
		2.			5.		
		3.			6.		
2.	Ultra-Vue	1.			4.		
		2.			5.		
		3.			6.		

REMARKS: _____

NOTE: Include maintenance request numbers for all items requiring repairs.

Inventory By _____ Date _____

Reviewed By _____ Date _____

POINT BEACH NUCLEAR PLANT

MONTHLY COMMUNICATIONS TEST

	Date/Time	Initials
NAWAS Warning Center 2		
NAWAS Manitowoc County		
NAWAS Kewaunee County		
PBX System		
General Telephone Lines		
Gai-tronics		
County Sheriff FM		
ENS - CR		
ENS - TSC		
ENS - ESC		

NOTE: Precede and follow any test communication with the words "This a test."

POINT BEACH NUCLEAR PLANT

CALCULATION OF Xe-133 EQUIVALENT RELEASE RATES

Responsibility - Shift Supervisor or designee.
Frequency - During classification only.

1.0 LOW RANGE OPERATIONAL VENT STACK READINGS

	Flow Rate (CFM)	Meter Reading (CPM)		Conversion Factor $\frac{\text{Curies}}{\text{sec-cpm}}$		Release Rate (Curies/sec)
Auxiliary Building	61400	_____	x	5.8×10^{-9}	=	_____
Drumming Area	43100	_____	x	1.2×10^{-8}	=	_____
Unit 1 Containment Purge	12500	_____	x	2.1×10^{-6}	=	_____
	25000	_____	x	4.2×10^{-6}	=	_____
Unit 2 Containment Purge	12500	_____	x	2.1×10^{-6}	=	_____
	25000	_____	x	4.2×10^{-6}	=	_____
Gas Stripper Building	13000	_____	x		=	_____
Combined Air Ejector	25	_____	x	7.8×10^{-9}	=	_____

2.0 EBERLINE RMS-11 VENT STACK READOUTS

	Flow Rate (CFM)	Meter Reading (R/hr)		Conversion Factor $\frac{\text{Curies - Hrs}}{\text{sec-R}}$		Release Rate (Curies/sec)
Auxiliary Building	61400	_____	x	3.0×10^{3}	=	_____
Drumming Area	43100	_____	x	2.2×10^{3}	=	_____
Unit 1 Containment Purge	12500	_____	x	1.6×10^{4}	=	_____
	25000	_____	x	3.2×10^{4}	=	_____
Unit 2 Containment Purge	12500	_____	x	1.6×10^{4}	=	_____
	25000	_____	x	3.2×10^{4}	=	_____
Gas Stripper Building	13000	_____	x	6.2×10^{2}	=	_____
Combined Air Ejector	25	_____	x	3.6	=	_____

3.0 PLANT EFFLUENT VENT STACK CONTACT READINGS

	Flow Rate (CFM)	Meter Reading (R/hr)		Conversion Factor $\frac{\text{Curies-hr}}{\text{sec-R}}$		Release Rate (Curies/sec)
Auxiliary Building	61400	_____	x	3.0×10^{2}	=	_____
Drumming Area	43100	_____	x	2.3×10^{2}	=	_____
Unit 1 Containment	12500	_____	x	8.0×10^{1}	=	_____
	25000	_____	x	1.6×10^{2}	=	_____
Unit 2 Containment	12500	_____	x	8.0×10^{1}	=	_____
	25000	_____	x	1.6×10^{2}	=	_____
Gas Stripper Building	13000	_____	x	8.0×10^{4}	=	_____
Combined Air Ejector	25	_____	x	1.6×10^{2}	=	_____

	Estimated Steam Release (lb/hr)	x	Specific Volume (ft^3/lbm)	x	Conversion Factor $\frac{\text{hr-cm}^3}{\text{sec-ft}^3}$	x	Meter Reading (R/hr)	X	Conversion Factor $\frac{\text{Curies-hr}}{\text{cm}^3\text{-R}}$	=	Release Rate Ci/sec
Main Steam Header	_____	x	_____	x	7.86	x	_____	x	8.0×10^{-1}	=	_____

Assume 1000 psia steam which will give a conservative specific volume. At 1000 psia specific volume = .446 ft^3/lbm. Steam generator safety valve rating is 8.33×10^{5} lb/hr per valve. Atmospheric relief valve capacity is 3.3×10^{4} lb/hr with both valves open.

4.0 ESTIMATE OF GROSS Xe-133 EQUIVALENT RELEASE RATES

Vent	Xe-133 Equivalent Release Rate (Curies/sec)
Auxiliary Building	
Drumming Area	
Unit 1 Containment Purge	
Unit 2 Containment Purge	
Gas Stripper Building	
Combined Air Ejector Decay Duct	
Main Steam Header	
TOTAL	

Completed By _____ Date _____ Time _____